
TENDER SPECIFICATION

TENDER NO. BHEL/NR/SCT/ SALMA / MEI /819

FOR

“Material handling, execution of infrastructural civil works incl. construction of store, office etc. and Erection, Testing, Commissioning, trial operations & handing over of complete E&M packages comprising Francis Turbines, Generators, Excitation system, Generator Transformers, Bus Duct, Switchyard, BOPs etc. with their auxiliaries, for 3x14 MW SALMA DAM HYDRO POWER PROJECT, AFGHANISTAN.”

PART I – TECHNICAL BID



Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301(INDIA)



ISO 9001, ISO 14001,
OHSAS 18001 & SA 8000
certified company
SubContract and Purchase
Deptt.

Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301(INDIA)
Phone: 0091-0120- 2416286 / 2515440
Fax 091-0120-2416528
Email: vkg@bhelsnr.co.in / msd@bhelsnr.co.in

TENDER NO. BHEL/NR/SCT/ SALMA / MEI /819

IMPORTANT NOTE

PURCHASER OF THIS TENDER DOCUMENT IS ADVISED TO CHECK AND ENSURE COMPLETION OF ALL PAGES OF TENDER DOCUMENT AND REPORT ANY DISCREPANCY TIMELY FOR CORRECTIVE ACTION, IF ANY, TO THE ISSUING AUTHORITY BEFORE THE BIDS ARE SUBMITTED. ORIGINAL COPY OF TENDER DOCUMENT COMPLETE IN ALL RESPECTS MUST BE SUBMITTED BACK AS PART OF THE BID WITHOUT WHICH THE SAME IS LIABLE TO BE REJECTED BY BHEL.

THIS TENDER SPECIFICATION ISSUED TO:

M/S-----

Rev 00
6th July
2010

NOTICE INVITING TENDER

(Document No PS:MSX:NIT)

Bharat Heavy Electricals Limited



NOTICE INVITING TENDER (NIT)
NOTE: BIDDER MAY DOWNLOAD FROM WEB SITES
OR
PURCHASE TENDERS FROM THIS OFFICE ALSO

=====

To

Dear Sir/Madam,

Sub: NOTICE INVITING TENDER

Sealed offers in two part bid system are invited from reputed & experienced bidders for the subject job by the undersigned on the behalf of BHARAT HEAVY ELECTRICALS LIMITED as per the tender document. Following points relevant to the tender may please be noted and complied with.

1.0 Salient Features of NIT

SL NO	ISSUE	DESCRIPTION
i	TENDER NUMBER	TENDER NO. BHEL/NR/SCT/ SALMA / MEI /819
ii	Broad Scope of job	"Material handling, execution of infrastructural civil works incl. construction of store, office etc. and Erection, Testing, Commissioning, trial operations & handing over of complete E&M packages comprising Francis Turbines, Generators, Excitation system, Generator Transformers, Bus Duct, Switchyard, BOPs etc. with their auxiliaries, for 3x14 MW SALMA DAM HYDRO POWER PROJECT, AFGHANISTAN."
iii	DETAILS OF TENDER DOCUMENT	
a	Volume-IA	<i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc</i> <i>Applicable</i>
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i> <i>Applicable</i>
c	Volume-IC	<i>General Conditions of Contract (GCC)</i> <i>Applicable</i>
d	Volume-ID	<i>Forms and Procedures</i>
e	Volume-II	<i>Price Schedule (Absolute value).</i> <i>Applicable</i>
iv	Issue of Tender Documents	<ol style="list-style-type: none"> <i>Sale from BHEL PS Regional office at : Start : 20/08/ 2011 , Time : 11.00 hrs (IST) Closes: 12/09/2011 , Time : 12.00 hrs (IST)</i> From BHEL website (www.bhel.com) Tender documents can however be downloaded from website till due date of submission <i>Applicable</i>
v	DUE DATE & TIME OF OFFER SUBMISSION	<i>Date : 12/09/2011, Time : 15.00 HRS(INDIAN STD TIME) Place : NOIDA(UP)--INDIA</i> <i>Applicable</i>
vi	OPENING OF TENDER	<i>1/2 hour after the latest due date and time of Offer submission</i> <i>Notes:</i> <i>(1) In case the due date of opening of tender becomes a non-working day, tenders shall be opened</i> <i>Applicable</i>

		<i>on next working day at the same time. (2) Bidder may depute representative to witness the opening of tender</i>	
vii	EMD AMOUNT	Rs.2,00,000/-	<i>Not Applicable</i>
viii	COST OF TENDER	Rs.2,000	<i>Not Applicable</i>
ix	LAST DATE FOR SEEKING CLARIFICATION	Date: 05/09.2011 <i>Along with soft version also, addressing to undersigned & to others as per contact address given below</i>	Applicable
x	SCHEDULE OF Pre Bid Discussion (PBD)	<i>Date : __/__/____, Time : Place :</i>	Applicable / Not applicable.
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)	Shri Kanwarjit Singh, IRS (Rtd.) D-6/12, Ground Floor, Vasant Vihar, New Delhi - 110 057	Applicable/Not Applicable
xii	Latest updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com -->Tender Notifications →View Corrigendums) and not in the newspapers. Bidders to keep themselves updated with all such information.	

- 2.0 The offer shall be submitted as per the instructions of tender document and as detailed in this NIT. Bidders to note specifically that all pages of tender document, including these NIT pages of this particular tender together with subsequent correspondences shall be submitted by them, duly signed & stamped on each page, as part of offer. Rates/Price including discounts/rebates, if any, mentioned anywhere/in any form in the techno-commercial offer other than the Price Bid, shall not be entertained.
- 3.0 Unless specifically stated otherwise, bidder shall remit cost of tender and courier charges if applicable, in the form of Demand Draft drawn in favour of Bharat Heavy Electricals Ltd, payable at Power Sector Regional HQ at Noida issuing the Tender, along with techno-commercial offer. Bidder may also choose to deposit the Tender document cost by cash at the Cash Office as stated above against sl no iv of 1, on any working day; and in such case copy of Cash receipt is to be enclosed with the Techno Commercial offer. Sale of tender Documents shall not take place on National Holidays, holidays declared by Central or State Governments and BHEL PS HQ at Noida, Sundays and second/ last Saturdays
- 4.0 Unless specifically stated otherwise, bidder shall deposit EMD through Demand Draft/Pay Order in favour of Bharat Heavy Electricals Ltd, payable at Noida. For other details and for 'One Time EMD' please refer General Conditions of Contract.
- 5.0 **Procedure for Submission of Tenders:** The Tenderers must submit their Tenders to Officer inviting Tender, as detailed below:
- PART-I consisting of 'PART-I A (Techno Commercial Bid)' & 'PART-I B (EMD/COST of TENDER)' in two separate sealed and superscribed envelopes (ENVELOPE-I & ENVELOPE-II)
 - PART-II (Price Bid) – in sealed and superscribed envelope (ENVELOPE-III)
- 6.0 The contents for ENVELOPES and the superscription for each sealed cover/Envelope are as given below. (All pages to be signed and stamped)

Sl no	Description	Remarks
	Part-I A	

	<p>ENVELOPE – I superscribed as : PART-I (TECHNO COMMERCIAL BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION: -----</p> <p>CONTAINING THE FOLLOWING:-</p>	
i.	Covering letter/Offer forwarding letter of Tenderer.	
ii.	<p>Duly filled-in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above.</p> <p>Note:</p> <p>a. In case of any deviation, the same should be submitted separately for technical & commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be placed after document under sl no (i) above. It shall be specifically noted that deviation recorded elsewhere shall not be entertained.</p> <p>b. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding.</p> <p>i). In case of acceptance of the deviations, appropriate loading shall be done by BHEL</p> <p>ii). In case of unacceptable deviations, BHEL reserves the right to reject the tender</p>	
iii.	<p>Supporting documents/ annexure/ schedules/ drawing etc as required in line with Pre-Qualification criteria.</p> <p>It shall be specifically noted that all documents as per above shall be indexed properly and credential certificates issued by clients shall distinctly bear the name of organization, contact ph no, FAX no, etc.</p>	
iv.	All Amendments/Correspondences/Corrigenda/Clarifications/Changes/ Errata etc pertinent to this NIT.	
v.	Integrity Pact Agreement (Duly signed by the authorized signatory)	If applicable
vi.	Duly filled-in annexures, formats etc as required under this Tender Specification/NIT	
vii.	Notice inviting Tender (NIT)	
viii.	Volume – I A : <u>Technical</u> Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc	
ix.	Volume – I B : Special Conditions of Contract (SCC)	
x.	Volume – I C : General Conditions of Contract (GCC)	
xi.	Volume – I D : Forms & Procedures	
xii.	Volume – II (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item	
xiii.	Any other details preferred by bidder with proper indexing.	

	PART-I B	
	<p>ENVELOPE – II superscribed as: PART-I (EMD/COST of TENDER) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:</p> <p>CONTAINING THE FOLLOWING:-</p>	
i.	1. Earnest Money Deposit (EMD) in the form as indicated in this Tender	
	OR	

	Documentary evidence for 'One Time EMD' with the Power Sector Region of BHEL floating the Tender	
	2. Cost of Tender (Demand Draft or copy of Cash Receipt as the case may be)	

	PART-II	
	PRICE BID consisting of the following shall be enclosed	
	ENVELOPE-III superscribed as: PART-II (PRICE BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:	
	CONTAINING THE FOLLOWING	
i	Covering letter/Offer forwarding letter of Tenderer enclosed in Part-I	
ii	Volume II – PRICE BID (Duly Filled in Schedule of Rates – rate/price to be entered in words as well as figures)	

	OUTER COVER	
	ENVELOPE-IV (MAIN ENVELOPE / OUTER ENVELOPE) superscribed as: TECHNO-COMMERCIAL BID, PRICE BID & EMD TENDER NO: NAME OF WORK: PROJECT: DUE DATE OF SUBMISSION:	
	CONTAINING THE FOLLOWING:	
i	<ul style="list-style-type: none"> o Envelopes I - Applicable o Envelopes II - Not applicable. o Envelopes III - Applicable 	

SPECIAL NOTE: All documents/ annexures submitted with the offer shall be properly annexed and placed in respective places of the offer as per enclosure list mentioned in the covering letter. BHEL shall not be responsible for any missing documents.

- 7.0 No Deviation with respect to tender clauses and no additional clauses/ suggestions/ in Techno-commercial bid/ Price bid shall normally be considered by BHEL. Bidders are requested to positively comply with the same.
- 8.0 BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).
- 9.0 **Assessment of Capacity of Bidders:**
Bidders capacity for executing the job under tender shall be assessed as per the following:

- I. Assigning Weightages (A) for Similar Jobs Under-Execution: Weightages shall be worked out and assigned based on the average number of Similar Works under execution including works yet to be commenced by the agency, in the following manner:
- i). Number of Similar Jobs
 - a) No. of jobs in BHEL, PSER : Say 'J'
 - b) No. of jobs in BHEL, PSSR : Say 'K'
 - c) No. of jobs in BHEL, PSWR : Say 'L'
 - d) No. of jobs in BHEL, PSNR : Say 'M'
 - e) No. of jobs with other customers* : Say 'N' (*: Other than BHEL PSER, PSSR, PSWR & PSNR)
 - f) Average No. of Jobs is 'P' = (J+K+L+M+N) divided by 5
 - ii) Weightage "A" assigned to bidders based on Average Number of jobs "P";
 - a) If 'P' = 0-1, "A" will be equal to '3'
 - b) If 'P' = 2-3, "A" will be equal to '2'
 - c) If 'P' = 4-5, "A" will be equal to '1'
 - d) If 'P' is Above 5, "A" will be equal to '0'
- II. Weightage "B" for Quarterly Performance Reports of Vendors: This shall be based on the averages of the net weighted score obtained by the bidder for the jobs under execution (excluding works not commenced) for the quarter previous to the last quarter reckoned from the date of latest due date of submission, in all four Regions i.e BHEL PSER, PSSR, PSWR & PSNR, in the following manner.
- i). Ratings by Power Sector Region:
 - a) PS ER's Rating 'Rer' = $(X_1 + X_2 + \dots + X_n)$ divided by n
 - b) PS WR's Rating 'Rwr' = $(X_1 + X_2 + \dots + X_n)$ divided by n
 - c) PS SR's Rating 'Rsr' = $(X_1 + X_2 + \dots + X_n)$ divided by n
 - d) PS NR's Rating 'Rnr' = $(X_1 + X_2 + \dots + X_n)$ divided by n
 - e) Over all Power Sector Region Rating 'R_{BHEL}' = (Rer+ Rwr+ Rsr+ Rnr) divided by 4

(where "X₁, X₂, X₃,...X_n" is the net weighted score obtained by the bidder as per the "Evaluation of Contractor Performance (Quarterly)" against the various contracts 'n' under execution in the respective Region).
 - ii) Weightage "B" assigned to bidders based on Overall Power Sector Rating (R_{BHEL}):
 - a) If R_{BHEL} is 80% and above, "B" will be equal to '6'
 - b) If R_{BHEL} is > 70% < 80%, "B" will be equal to '5'
 - c) If R_{BHEL} is > 60% < 70%, "B" will be equal to '4'
 - d) If R_{BHEL} is < 60%, "B" will be equal to '0'
- III. Evaluation of Bidders capacity to execute the job under tender: shall be based on the sum of scores obtained in 'A' and 'B', as below:
- a) 6 or above : Considered 'Qualified' for the job under tender
 - b) Less than 6: Considered 'NOT Qualified' for the job under tender
- IV. Explanatory note:
- a) Similar work means Boiler or Turbine or Civil or Electrical or CI, etc irrespective of rating of Plant
 - b) Quarter shall be as per the quarter defined in the "Evaluation of Contractor performance (Quarterly)". For contracts where annexed Quarterly Evaluation performance was not part of the contract, 'Quarterly Performance Reports' previous to the last quarter reckoned from the date of

latest due date of submission, given by the respective project site against the contract will be the basis for evaluation.

- c) Vendors who are not executing any jobs presently in the Region and first timers to the Region, may be considered subject to satisfying all other tender conditions
- ⇨ 'Under execution' shall mean works in progress upto Boiler Steam Blowing (for Boiler and Auxilliaries) or Synchronisation (for all other jobs including Civil) shall be considered.
- 10.0 Since the job shall be executed at site, bidders must visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including law & order situation etc before quoting for this tender. They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions. No additional claim shall be entertained by BHEL in future, on account of non-acquaintance of above.
- 11.0 For any clarification on the tender document, the bidder may seek the same in writing or through e-mail, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.
- 12.0 BHEL may decide holding pre-bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre-bid discussion (PBD) shall also form part of tender.
- 13.0 In the event of any conflict between requirement of any clause of this specification/ documents/drawings/data sheets etc or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer, else BHEL's interpretation shall prevail.
- 14.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
- 15.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer), if applicable, along with techno-commercial bid. This pact shall be considered as a preliminary qualification for further participation. The names and other details of Independent External Monitor (IEM) for the subject tender is as given at point (xi) of 1 above.
- 16.0 The Bidder has to satisfy the Pre Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of pre-qualification evaluation/ techno-commercial bids, approval/ acceptance of customer (as applicable), etc. and date of opening of price bids shall be intimated to only such bidders.
- 17.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorised representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.
- 18.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) or specified otherwise in SCC of tender.
- 19.0 BHEL reserves the right to decide the successful bidder on the basis of Reverse Auction process. In such case all qualified bidders will be intimated regarding procedure/ modality for Reverse Auction process prior to Reverse Auction and price will be decided as per the rules for Reverse Auction. .

However, if reverse auction process is unsuccessful as defined in the RA rules/procedures, or for whatsoever reason, then the sealed 'PRICE BIDS' will be opened for deciding the successful bidder. BHEL's decision in this regard will be final and binding on bidder.

- 20.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 21.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.
- 22.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 23.0 In case Consortium Bidding is allowed as per Pre Qualifying Requirement, then Prime Bidder and Consortium Partner shall enter into Consortium Agreement. Validity period of Consortium Agreement shall be 6 months after which the same can be re validated.

'Stand alone' bidder cannot become a 'prime bidder' or a 'consortium bidder' in a consortium bidding. Prime bidder shall neither be a consortium partner to other prime bidder nor take any other consortium partners. However, consortium partner may enter into consortium agreement with other prime bidders. In case of non compliance, consortium bids of such Prime bidders will be rejected. .

- 24.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements" duly self certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.
- 25.0 The bidder may have to produce original document for verification if so decided by BHEL.
- 26.0 Order of Precedence
In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:
- a. Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
 - b. Notice Inviting Tender (NIT)
 - c. Price Bid
 - d. Technical Conditions of Contract (TCC)—Volume-1A
 - e. Special Conditions of Contract (SCC) —Volume-1B
 - f. General Conditions of Contract (GCC) —Volume-1C
 - g. Forms and Procedures —Volume-1D

For BHARAT HEAVY ELECTRICALS LTD

Sr.DGM (SCT)

Enclosure

01. Annexure-1: Pre Qualifying criteria.
02. Annexure-2: Check List.
03. Annexure-3: GENERAL TERMS AND CONDITIONS OF REVERSE AUCTION (RA)
04. Annexure-4: Authorization of representative who will participate in the on line Reverse Auction Process
05. Annexure-5: INTEGRITY PACT

ANNEXURE - 1

PRE QUALIFYING CRITERIA

JOB	“Material handling, execution of infrastructural civil works incl. construction of store, office etc. and Erection, Testing, Commissioning, trial operations & handing over of complete E&M packages comprising Francis Turbines, Generators, Excitation system, Generator Transformers, Bus Duct, Switchyard, BOPs etc. with their auxiliaries, for 3x14 MW SALMA DAM HYDRO POWER PROJECT, AFGHANISTAN.”
TENDER NO.	TENDER NO. BHEL/NR/SCT/ SALMA / MEI /819

SL No	PRE QUALIFICATION CRITERIA	Name and Description of qualifying criteria
A	Submission of Integrity Pact duly signed (if applicable)	APPLICABLE
B	Assessment of Capacity of Bidder to execute the work as per sl no. 9 of NIT (if applicable)	APPLICABLE
C	<p>Technical</p> <p>Tenderers who wish to participate:</p> <p>(a) Should have executed similar nature work of erection, testing & commissioning of at least one Vertical Hydro Turbine Generator set of 10 MW or higher rating during last seven (7) years.</p> <p style="text-align: center;">‘OR’</p> <p>(b) Should have executed major R&M/overhauling works of Hydro Turbine & Generator (HTG) of rating 10 MW or above during last seven (7) years. The individual contract value should be US\$ 0.2 Million or above. Equivalent value in other currency can also be considered.</p> <p style="text-align: center;">‘OR’</p> <p>(c) Should have executed/have been executing any major Mechanical/Electrical/Civil works in a Power Project/ Industrial Project in Afghanistan and having Joint Venture with an Indian contractor who has executed Erection, Testing & Commissioning works of at least one Vertical Hydro Turbine Generator set of 10 MW or higher rating during last seven (7) years. Contract value of executing work (single contract) should be US\$ 0.2 Million or above.</p>	APPLICABLE
D 1	<p>Financial</p> <p><u>TURNOVER</u></p> <p>“Tenderers should have an average annual turnover of minimum US\$</p>	

	0.85 Millions ‘OR’ INR 40 Million during preceding three years (2007-08, 2008-09 and 2009-10). Tenderer shall submit audited balance sheets and profit & loss account in support of same”	
2	NETWORTH	NOT APPLICABLE
3	PROFIT	NOT APPLICABLE
E	<p>Approval of Customer (if applicable)</p> <p>Note: Name of tenderers who stand qualified after compliance of criteria Sl. No. C & D above shall be forwarded to M/s WAPCOS for their approval after technical scrutiny. Price bid of only those tenderers shall be opened who are approved by customer.</p>	APPLICABLE
F	<p>Consortium criteria (if applicable)</p> <p>Joint Venture against C (c) shall be as follows:</p> <ul style="list-style-type: none"> i) Legal documents of Joint Venture agreement, signed by all partners, shall be submitted as part of technical bid and shall be scrutinized during technical scrutiny. The composition of the Joint Venture and role and responsibility of each Partner must be well defined especially about the type of arrangement between the two Partners in ensuring the execution of the job; ii) One of the partners shall be nominated as being in charge (hereafter referred to as the ‘Lead Partner’), and this authorization shall be evidenced by submitting a power of attorney / authority letter , signed by legally authorized signatories of all the Partners; iii) In such a case of Joint Venture, the number of partners including the lead partner shall not exceed two; iv) Lead Partner shall be authorized to incur liabilities and receive instructions for and on behalf of any and all Partners of the Joint Venture and the entire execution of the contract, including payment, shall be done exclusively with Lead Partner; v) All partners of Joint Venture shall be liable jointly and severally for execution of the contract in accordance with the contract terms; vi) In case of dissolution of Joint Venture agreement, the Lead Partner shall be liable for arranging another partner for Joint Venture meeting the requisite qualifying requirements and completing the work as per the terms of contract without any additional cost to BHEL or without affecting project schedule; vii) For the purpose of Financial Qualifying Requirements, Financial Turnover of Lead Partner only shall be considered; viii) The tenderers shall be required to submit a BG acceptable to BHEL amounting to 1% of contract value through their Joint Venture partner in favour of BHEL as a backup guarantee (from the Joint Venture partner) for successful execution of work. This BG shall be submitted within one month from date of LOI and shall remain valid for 12 months and shall be extended up to commissioning of unit, if required. BHEL shall return the above BG on commissioning of unit. 	APPLICABLE

Explanatory Notes for QR 'C'

- i. Tenderer shall submit documents in support of meeting the respective Qualifying Requirement.
- ii. Last seven years mentioned above will be reckoned as on date of Technical Bid opening.
- iii. If the qualifying work is completed in the seven (7) years period specified above, even if started earlier, the same will also be considered meeting the qualifying requirements.
- iv. The word “executed” means; tenderer should have completed the work in all respect. Tenderer may note that hydro project(s) where erection/pre-commissioning activity of turbine, generator sets have been completed but commissioning could not be done on account of customer constraints such as non availability of water/transmission line will also be considered as completed project.
- v. The word ‘executing’ means the work in progress.

ANNEXURE - 2

CHECK LIST

NOTE:- Tenderers are required to fill in the following details and no column should be left blank

1	Name and Address of the Tenderer		
2	Details about type of the Firm/Company		
3	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Fax No:	
4	EMD DETAILS	DD No: Date : Bank : Amount: Please tick (✓) whichever applicable:- ONE TIME EMD / ONLY FOR THIS TENDER	
5	Validity of Offer	TO BE VALID FOR SIX MONTHS FROM DUE DATE	
		APPLICABILITY	BIDDER REPLY
6	Whether the format for compliance with PRE QUALIFICATION CRITERIA (ANNEXURE-I) is understood and filled with proper supporting documents referenced in the specified format	Applicable	YES / NO
7	Audited profit and Loss Account for the last three years	Applicable/Not Applicable	YES/NO
8	Copy of PAN Card	Applicable/Not Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable/Not Applicable	YES/NO
10	Integrity Pact	Applicable/Not Applicable	YES/NO
11	Declaration by Authorised Signatory	Applicable/Not Applicable	YES/NO
12	No Deviation Certificate	Applicable/Not Applicable	YES/NO
13	Declaration confirming knowledge about Site Conditions	Applicable/Not Applicable	YES/NO
14	Declaration for relation in BHEL	Applicable/Not Applicable	YES/NO
15	Non Disclosure Certificate	Applicable/Not Applicable	YES/NO
16	Bank Account Details for E-Payment	Applicable/Not Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable/Not Applicable	YES/NO
18	Tie Ups/Consortium Agreement are submitted as per format	Applicable/Not Applicable	YES/NO
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable/Not Applicable	YES/NO
20	Analysis of Unit rates	Applicable/Not Applicable	YES/NO

NOTE : STRIKE OFF 'YES' OR 'NO', AS APPLICABLE

DATE :

AUTHORISED SIGNATORY
(With Name, Designation and Company seal)

ANNEXURE- 3

GENERAL TERMS AND CONDITIONS OF REVERSE AUCTION (RA)

Against this enquiry for the subject item / system with detailed scope of supply as per our tender specification, BHEL-PSNR, NOIDA may resort to "REVERSE AUCTION PROCEDURE" i.e. **ONLINE BIDDING on INTERNET.**

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on Internet.
3. In case BHEL decides to conduct reverse auction, BHEL's service provider shall contact the vendor directly and impart them the training.
4. Business rules like event date, time, start price, bid decrement, extensions, etc. also will be communicated through service provider for compliance.
5. Vendors have to fax the compliance form in the prescribed (provided by service provider) before start of Reverse auction. Without this the vendor will not be eligible to participate in the event.
6. **Total Price quoted shall be inclusive of all expenses, taxes/ duties, worker insurance in line with the NIT conditions for the subject work in INR, which is to be worked out as per the BOQ (Rate Schedule) given in tender enquiry and subsequent changes made, if any. EXCEL Sheet shall be provided, if applicable.**
7. Reverse auction will be conducted on schedule date & time.
8. At the end of reverse auction event, the lowest bidder value will be known on the network.
9. The lowest bidder has to fax the duly signed filled-in prescribed format as provided on case-to-case basis to BHEL through service provider after completion of event on the same day preferably.
10. Any variation between the on-line bid value and signed document will be considered as sabotaging the tender process and will invite disqualification of vender to conduct business with BHEL as per prevailing procedure.
11. In case BHEL decides not to go for Reverse auction procedure for this tender enquiry, the price bids and price impacts, if any already submitted and available with BHEL shall be opened as per BHEL standard practice.

ANNEXURE- 4

Authorization of representative who will participate in the on line Reverse Auction Process;

1	NAME & DESIGNATION OF OFFICIAL	
2	POSTAL ADDRESS (COMPLETE)	
3	TELEPHONE NOS. (LAND LINE & MOBILE BOTH)	
4	FAX NO.	
5	E-MAIL ADDRESS	
6	NAME OF PLACE/ STATE/ COUNTRY, WHEREFROM S/HE WILL PARTICIPATE IN THE REVERSE AUCTION	

INTEGRITY PACT

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at “BHEL House”, Siri Fort, New Delhi – 110049 (India) hereinafter referred to as “The Principal”, which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and

_____, (description of the party along with address), hereinafter referred to as “The Bidder/ Contractor” which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for

_____. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 – Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
- 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
- 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
- 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/ Contractor(s)

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
- 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in

order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 – Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidders(s)/ Contractor(s) from the tender process or take action as per the separate “Guidelines for Suspension of Business Dealings with Suppliers/ Contractors” framed by the Principal.

Section 4 – Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

Section 5 – Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-contractors

- 6.1 The Bidder(s)/ Contractor(s) undertake(s) to demand from his sub-contractors a commitment consistent with this Integrity Pact. This commitment shall be taken only from those sub-contractors whose contract value is more than 20% of Bidder's/ Contractor's contract value with the Principal.
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7 – Criminal Charges against violating Bidders/ Contractors /Sub-contractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 –Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or

take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

- 8.6 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
- 8.7 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.8 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.9 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8.10 The word 'Monitor' would include both singular and plural.

Section 9 – Pact Duration

- 9.1 This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.
- 9.2 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 – Other Provisions

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.
- 10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- 10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those bidders/ contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

 For & On behalf of the Principal
 (Office Seal)

 For & On behalf of the Bidder/ Contractor
 (Office Seal)

Place-----

Date-----

Witness: _____
 (Name & Address) _____

Witness: _____
 (Name & Address) _____

Rev
00 6th
JULY

Part-I

TECHNICAL CONDITIONS OF CONTRACT (TCC)

(Document No PS:MSX:TCC)

BHARAT HEAVY ELECTRICALS
LIMITED



TECHNICAL CONDITIONS OF CONTRACT (TCC)

INDEX

SI No	Description	Chapter
Vol-IA	Part-I: Contract specific details	
1	Project Information	Chapter-I
2	Scope of Works	Chapter-II
3	Time Schedule	Chapter-III
4	Tentative Weight Schedule	Chapter-IV
5	Rate Schedule/BOQ	Chapter-V
6	Terms of Payment	Chapter-VI
7	Taxes and Other Duties	Chapter-VII
8	Facilities in the scope of Contractor/BHEL	Chapter-VIII
9	T&P and MMES to be deployed by the Contractor	Chapter-IX
10	T&P and MMEs to be deployed by BHEL on sharing basis	Chapter-X
11	Any Other Requirement	Chapter-XI

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - I: Project Information

1. Project Information

1.1. Introduction

M/S WAPCOS Ltd - WATER AND POWER CONSULTANCY SERVICES (INDIA) Limited - has awarded a contract to BHEL for supply, transportation, storage and material handling at site, erection and commissioning of 3 x 14 MW Francis turbines, generators, transformers along with all the auxiliaries and BOP on a lump sum basis.

The Project, located near Chist-e-Sharif in Herat province in Afghanistan shall have a surface Power House which is being constructed on right bank of river Hari Rud and is situated about 170 km east of Herat town, and 9 km from Chist-e-Sharif and 2 km downstream of Salma Village on right bank of river at Latitude 34° 24' N and Longitude 63° 49' E. Chist-e-Sharif is a district Headquarter and a famous place of pilgrimage. Nearest city is Herat where community services like post office, bank, police station, hospital, school, cranes on hire, and vendors for DG sets, tools, etc. are available. There is Indian Consulate at Herat.

The climate at project area- Hari Rud river valley- is typical of an arid or semi-arid steppe with cold and wet winters and dry and warm summers. The river basin is affected by the extra tropical wind systems moving from the west during the winter season, which is normally from October to March. These are cold weather systems, which invariably cause precipitation as snow even at low elevations. Sub zero temperatures prevail during this season in the basin upstream of the dam site.

Nearest airport is Herat. The international airport at capital city Kabul is connected to Herat by daily flights. Indian Airlines and Afghan Ariana Airlines are operating flights for New Delhi- Kabul- New Delhi.

The sea port of Bander -e- Abbas in Iran, presently the main gateway to Afghanistan, is about 1200 km away from the project site accessible via Kerman and Mashad in Iran and Islam Quilla and Herat in Afghanistan.

1.2. CLIMATIC CONDITIONS

- | | |
|------------------------------------|--|
| A. Maximum temperature | App 35 ⁰ C (Max ever recorded 41 ⁰ C) |
| B. Minimum temperature | App (-) 10 ⁰ C (Min ever recorded - 36 ⁰ C) |
| C. Maximum / Min Relative Humidity | Range of 31-71 % |

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

2. Scope of Works

BHEL has been awarded the work of design, manufacture, supply, installation, erection, testing & commissioning of 3x14 MW SALMADAM HYDRO POWER PROJECT located in Afghanistan. Scope of these specifications covers major works as detailed in Clause 2.1 below. The equipment generally consists of various packages as tabulated (LIST OF E&M PACKAGES) under clause 2.1 along with mandatory and recommended spares.

The total material to be supplied for the project is approximately **1900 Tonne**. The dispatches are continuing since about a year and approximately 80-85 % materials have already reached at project store area which is located near WAPCOS colony in Chiste-e-Shrief and is about 9 KM from power house. The contractor has to handle whatever actual materials are dispatched for the project irrespective of any variations and payments shall be released for the actual gross tonnage handled.

2.1. Major Scope of Work

- A. Receiving and Unloading of remaining consignments from the Trucks/ Trailers/ Containers arriving from BHEL manufacturing units (MU) and their suppliers/vendors (At project store, power house or work site).
- B. Proper Stacking and Preservations of all the material, already received or yet to be received. Providing packing below the already received packages which are directly unloaded on the ground.
- C. Keeping records and status of all materials as per BHEL practices. Verification of all the materials yet to be received or already received at site. Prepare shortages/damage reports if any and assisting in insurance claim lodging.
- D. Transportation of materials from project store to the powerhouse service bay or the pre assembly area or any other work area of installation as per site requirement and the instructions of site engineer.
- E. Construction of temporary sheds/shelters on some of the special equipments/ items as per the instruction of the site engineer.
- F. Unloading and stacking of items in the service bay / work area with the help of EOT cranes / unloading arrangement as per the instruction of BHEL engineer.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

- G. Proper Housekeeping and safe working.
- H. Erection, Testing, Commissioning, trial operation and Handing over of all equipments covered in this tender (See table below)
- I. Development of storage area, construction of closed storage shed, office premises including Office equipments, furnishing and its maintenance. Furnishing and maintenance of residential flats & guest house at site including mess facilities at site as well as guest house at Herat.
- J. Providing 1 no. each of DG set of 125 kVA, 25 kVA, and 25 kVA capacity for Powerhouse area, switchyard area and store area respectively to cater for construction power requirement in power house (including for EOT crane), other working areas and stores area. Distribution from DG set to power house, switchyard, other work areas and BHEL site office.
- K. Providing internet connection, computers & accessories with latest software at site.
- L. Providing sufficient illumination, firefighting equipment, warning signs in and around the place of work.
- M. Providing, running and maintenance of vehicle at site for BHEL staff.
- N. Providing services of mobile crane 20 tonne capacity for material handling at project stores including its running and maintenance. Average running per day is normally 3 to 4 hours. Idleness @2days/month may be allowed due to breakdown/maintenance etc. Idleness beyond the allowed days shall be treated as shutdown and for this USD 250/day shall be deducted from the quoted monthly rate.
- O. Providing assistance for efficiency testing.
- P. Handing over of all the spares to customer at their stores.
- Q. Handling and Transportation of scrap (packing wood and steel) from power house to WAPCOS stores / scrap yard as per the instructions of BHEL engineer.
- R. Re-conciliation of materials with BHEL and WAPCOS.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

- S. Documentation and records (Films/ Movies/ Photographs) from embedment to evacuation.

LIST OF E&M PACKAGES

S.No.	DESCRIPTION	QUANTITY
1	Turbine and Accessories (See note below clause 2.5)	3
2	Main Inlet Valve and accessories	3
3	Digital Governing system and Accessories	3
4	HP and LP Compressed air system	1
5	Cooling water system	3
6	Drainage & Dewatering System	1
7	Generator and Accessories	3
8	Excitation System	3
9	Unit Control Boards	3
10	Electric Overhead Travelling Cranes (75/ 15 T)**	1
11	Segregated phase Bus duct, LAVT, NGC including steel structure	3
12	17.25 MVA 3 phase Generator Transformers	3
13	6 MVA Oil filled Transformers	1
14	800 KVA Oil Filled Transformer	2
15	500 KVA Dry Cast Resin Unit Auxiliary Transformer	3
16	110 KV Switchyard Equipments (5 bays)	1
17	20 KV Metal Clad vacuum Switch Gear	4

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

18	415 V Unit Auxiliary boards**	3
19	415 V LT Boards**	2
20	415 V Station Service Boards**	2
21	415 V Switchyard distribution boards**	2
22	415 V Dam Distribution Boards**	2
23	220 V DC Batteries, Chargers, Distribution Boards	2
24	Central control unit, Interface panels, GPS based Synchronisation unit, Data communication equipments, Protection system	2
25	PLCC Equipment with 36 Telephones and 48 V battery station**	1
26	Fire Fighting System -Power House, Generator**	1 each
27	Mulsifier System for Transformers	1
28	Fire Fighting System (cable spreading room and oil handling room**	1
29	Public address System for PH, Transformer area, Switch yard area**	1
30	Ventilation System and accessories**	1
31	500 KVA emergency DG set**	2
32	Electric Passenger Lift for 10 persons**	1
33	Lubricating Oil Purifier	1
34	Insulation Oil Purifier	1
35	Lubrication Oil Purifier (Portable Unit)	1
36	Insulation Oil Purifier (Portable Unit)	1
37	Illumination System**	1
38	Power, Control, Instrumentation cables, 24 KV XLPE, incl cable trays and accessories	3

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

39	Mechanical Work shop**	1
40	Electrical Laboratory**	1

** Supervision of erection by MU/ vendor representative

- 2.2. The equipment and piping shall be erected in conformity with the provision of standard/ specification and as may be directed by BHEL. The method of welding (Arc, gas, TIG, MIG/MAG or other method) may be indicated in the detailed drawing/ schedules. BHEL engineer will have option of changing the method of welding as per site requirements.
- 2.3. EOT crane shall be installed by contractor under supervision of its vendor. The EOT crane shall be provided to the contractor for the execution of work free of hire charges. Construction power for running of EOT crane shall however be in the scope of the contractor. The day-to-day routine maintenance shall be in the scope of the contractor till the completion of erection works. During the maintenance of the crane, the contractor shall arrange to replace any component, if required, which is not available in stock. The actual cost of the component shall be reimbursed to the contractor by BHEL. The said contractor shall also deploy the requisite number of crane operators (one or two nos. operator simultaneously) as per the instructions of BHEL engineer for operation of the crane for his scope of work in connection with Electromechanical works of BHEL. The crane operator may have to work in overtime also depending upon the work conditions for which no extra shall be payable to the contractor.
- 2.4. Most of the items / consignments will be dispatched directly to site by road. Details with weights & dimensions of some of the major E&M packages out of total packages tabulated in clause 2.1 above are given in Chapter IV Part I of TCC. Brief description of major E&M packages of turbine and generator is given in Annexure A. However, piece meal/ minor changes in design of some components/ equipments may occur as is usual for which no compensation will be payable and contractor shall complete the entire work as detailed in the tender specifications within finally accepted rates/ prices. Changes in weights etc beyond certain limits shall however be dealt as defined in clause 2 above.
- 2.5. The EOT crane may not be available for the erection of first /second stage embedment / piping and the stayring/spiral casing. The contractor may have to carry out the works by his own T&P/ mobile crane within the scope of work.

Note:

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

* Erection of 1st stage embedments and embedded parts PG 201 for two units (1 & 2) mainly comprising draft tubes, pier nose, AND penstock & draft tube dewatering pipes coming under 1st stage concrete and efficiency pipes with its protection coverings coming under 1st stage concrete are under erection and therefore excluded from the scope of this present tender. These shall be taken over by present successful bidder for further works. Cutting of bracings etc in the above DT knee linings and painting shall however be carried out under the scope of the present tender.

Work of erection of I stage embedment and foundation parts PG 201, erection of II stage PG 202 and subsequent erection, testing of Francis type turbine and generator and auxiliaries will be taken up in phases depending on availability of fronts by customer. Bidders have to plan deployment of their resources accordingly.

Climatic conditions at site may/ may not permit working during peak winter conditions at least during the first winter after award of contract when PH building may/ may not be ready. Round the clock working in three shifts may be necessary during balance period of the year.

Bidders are advised to note this, visit site and quote accordingly. No additional charges/ compensation will be paid by BHEL on this account.

DETAILED SCOPE OF E&M PACKAGES

1. Each turbine comprising mainly of
 - Embedded parts namely, pier nose liner supplied in single piece, draft tube elbow liner supplied in 2 segments, draft tube cones in one piece, primary embedded piping etc.
 - Foundation parts namely, stay ring in single piece, spiral casing in 9 segments, secondary embedded piping, pit liners etc. Upper pit liners are supplied in two halves and lower pit liner in single piece. The spiral shall be kept pressurized during concreting.
 - Set of guide apparatus (20 nos. guide vanes) & servomotors, guide bearing, shaft sealing, runner, shaft, head race tail race level measuring devices complete with associated instrumentation, cabling works and other standard assemblies etc.
 - Other associated equipment.
2. Main inlet valve: 2060 mm diameter Butterfly valve including inlet pipe for B.F. valve with taper piece in single piece, outlet pipe for B.F. Valve in single piece, Service seal (main seal) Maintenance seal on D/S side, levers, servomotors, Bypass valve, air release

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

valve etc. The main body is in two halves bolted together and supplied in assembled condition at site. The valve door is fabricated.

3. Digital Electronic Hydraulic Governors comprising of hydro mechanical cabinet, micro processor (Max DNA based) EHGC, hydraulic over speed device, common Oil Sump Tank for turbine and MIV, common Oil Pressure receiver for turbine and MIV, oil leakage units, moisture detectors, oil level relays, pressure transmitters, Electrical transducers, emergency slide valve, Electromagnetic type flow meter, Temperature scanner, oil level indicator & controller, Headrace /tail race level measuring equipment and feedback mechanism along with piping and other associated equipments.
4. 75/15 ton, EOT crane complete with crane rails with foundation and clamping device, DSL etc. The girders (jointed type design) and trolley have been dispatched in two parts each for transport limitations. It includes set of mandatory spares for O&M.
5. Each generator comprising mainly of
 - The partially wound stator shall be dispatched to site in three segments. The stator frame A/F is 6730 mm and height is 2400 mm. Winding of stator segments at joint splits has to be carried out at site. HV test is to be carried out on complete stator at site including stage testing. The thrust collar is separate which is to be pressed / assembled at site, air coolers, anti-condensation pit heaters and control panels,
 - Rim type rotor to be assembled at site around the spider having 20 no. poles, slip rings, brush gear,
 - Assy of molded air guides while maintaining proper gaps with fans to suit the assembly at site.
 - thrust and guide bearing in lower bracket and a guide bearing in upper bracket along with plug in type oil coolers.
 - brake & jack system, HS lubrication system, carbon dust collection system for slip rings, brake dust collection system consisting of extraction unit, hoppers, hoses etc
 - upper and lower brackets, upper and lower air baffles, generator covering sheets, turbine pit cover sealing,
 - cooling water system with starter panels, flow, pressure, temperature monitoring and necessary regulating/ check valves etc,

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

- CO2 type fire extinguishing system,
 - various indicating & measuring instruments and devices like over speed, vibration monitoring, temperature, SSG, moisture detectors in oil, limit switches, shaft current monitor etc,
 - various foundation plates, foundation bolts, barrel access door, lighting arrangement for barrel, dome and turbine pit areas, various instruments/ control devices etc,
 - Blue matching of bearing pads with shafts and of load components of thrust bearing thrust bolt, thrust block etc with corresponding parts shall be carried out,
 - Along with associated equipment.
6. Static excitation system for the generator have microprocessor based controls. The excitation equipment shall comprise of rectifier, power transformer, thyristors, field circuit breaker with discharge resistor, field flashing circuits, AVR and protection and control devices & accessories JB's and its wiring etc along with associated equipment
 7. 12 KV, three phase segregated phase Bus ducts mainly comprising of main bus duct connecting generator line side to Generator Transformer and generator neutral terminals to NG cubicle, tap off bus duct for LAVT, UAT, Dynamic Breaking Switch and Excitation transformer, LAVT cubicles, NG cubicles, galvanized steel structures, earthing switches etc along with various rubber bellows, seal off bushings, CTs and other associated equipment. Field tests during erection/ commissioning, current carrying capacity & voltage withstand test etc. Connection and disconnection of various shorting links etc during pre-commissioning and commissioning is included in this contract.
 8. 110 kV switchyard equipment comprising of foundation bolts, supporting structures, outdoor type SF6 Gas filled CBs, complete with control cabinet & marshalling kiosk, motor operated spring charged gas monitoring instruments, operating mechanism, terminal connectors, supporting structures with fittings, cables etc., CTs, PTs, VTs, Surge Arrester, isolators and associated items.
 9. 20 kV Metal Clad Switchgears Accessories comprising of Vacuum Circuit Breakers, CTs, VTs, Bus Bar and necessary devices.
 10. 415 V AC Switchgear equipment comprising AC SSB, UAB, s/yard AC distribution board, dam site distribution board complete with all accessories.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

11. DC system includes mainly 220 V DC Batteries, Battery Chargers and DC distribution boards.

12. Generator transformers 17.25 MVA, 11/110 kV three phase, ynD11 oil immersed, outdoor type along with set of valves, piping, hangers, hardware, CW system consisting of radiators & coolers etc, oil , rails and other associated equipment.

-Station supply transformer 6 MVA, 20/110 kV three phase, Dyn11, oil immersed, ONAN cooled, outdoor type along with all fittings & accessories.

-Station auxiliaries transformers 800 kVA, 20/0.415 kV three phase, Dyn11, oil immersed, ONAN cooled, outdoor type along with all fittings & accessories.

-All routine tests except HV test shall be conducted at site.

13. Auxiliary Transformers as below,

-500KVA, 11/0.415 kV, three phase , metal enclosed cast resin dry type unit aux. transformers & accessories

14. The total Control & Monitoring system (SCADA) is divided into following two parts for the lower and upper level of controls.

-Control & Monitoring at lower level for unit and other auxiliaries from individual local control stations to be located in the machine hall nearby the generating units, control bay etc.

-Overall control & monitoring of the power plant at the upper level from operator work station in the central control room

Control & Monitoring system shall consist of three functionally identical, completely independent, auto sequencer system comprising of MAX DNA DCS based system, unit control boards, UCB and computers for various locations, VDUs, printers, power supply system, three nos. of operator work station, one engg. station, operator station, one laptop based operator work station, HMI, one set of Mosaic Mimic Board, one set of CAD station, UPS with VRLA battery system and Remote processing unit. Process control networks and power house LAN, power and control cable including central alarm & annunciation panels synchronizing panels, automatic energy metering system with panel in central control room, instruments, relays, and loose power and control cables for all above equipments along with associated equipment. Commissioning of all this system shall be carried out by BHEL engineers. However erection associated cabling

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

works and all assistance for Pre commissioning and commissioning the same shall be provided under the scope of this work.

15. Protection system includes relays & control panel for generator, generator transformers, excitation transformers, UAT, SSTs, bus bar, 110 KV feeders, relay testing kits etc.
16. PLCC equipment with 48V DC Supply system & EPBAX system and Associated Accessories comprises coupling devices, line traps, carrier terminals, protection couplers, HF coaxial cables, trunk selectors, automatic exchange, maintenance and testing equipment, 48 V SMPS (Switch Mode Power Supply) based DC power supply units Valve Regulated Lead Acid (VRLA) battery bank with 200 AH capacity & EPBAX system along with telephone sets (36 nos.).
17. Fire Fighting, Fire Detection and Service water supply system and Public Address System includes Hydrant Service System complete with pipings and fittings, Automatic high voltage water spray system for main generator transformer, Medium Velocity sprayer system for cable spreading room & Oil Lubrication Room, Fire Alarm and main fire protection panels alongwith control cables, cable trays with the required accessories, Fire Detection and alarm system in control, HT & LT and DG set rooms including smoke detectors, Public address system for PH, transformer area, s/yard building and s/yard area.
18. Ventilation system includes fans, control panel having necessary instruments for controlling motors, wire mesh type filters, air control devices, isolating devices & steel structures.
19. Emergency power supply system consists of 500 kVA DG sets are comprising of speed governor, fuel system, air intake & exhaust system, with auto AMF panel and cold starting unit, battery & battery charger, piping, cabling, galvanizing, cable glands, base frame, foundations, material & spares, control system, switchgear, CTs, PTs and common 5000 litres storage fuel tank O & M works are in contractor's scope.
20. Electrical Passenger Lifts for 10 nos. passengers covering a load of 680 Kg with all accessories and fittings, embedded parts etc.
21. One set of Oil Handling and Purification System is comprising of one set of Lubrication Oil Handling system with all necessary equipments, one set of Insulating Oil Handling system complete with all necessary items, one no. of portable oil purifier, one no. of vacuum pump unit and two nos. of Barrel pumps with accessories.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

22. Illumination system includes Luminaries, lamps, Receptacles, Ceiling Fans, Distribution Boards, Lighting poles, Switches & Boards, Junction Boxes and Light indicators, Wires and Cables, GI Conduit with Accessories and GI wires of appropriate length.
23. Power, control and instrumentation cables complete with cable terminals, accessories, trays/ support structures, cabling/-wiring, embedments, fixtures, proper dressing, terminations, identification tags, clamping of cables on trays for all the hydro generating equipment, transformers, bus ducts, along with associated items & auxiliaries, special tools and equipments for installation and maintenance of cables including the cabling for switchyard & its related equipment and different BOPs etc.
24. One Mechanical workshop equipments & one Electrical Laboratory Equipment includes one no. each of Centre lathe, power hacksaw, Pedestal Drilling M/C, Pipe threading & Bending Machine, Electric Welding Machine, Gas Welding Machine, Electrode Oven, Vice, Tripod with Chain Pulley, Portable Tools, Wooden Work Bench, Measuring Equipment, Four Wheeled Platform Trolley, Capacity (2T) and Vacuum Cleaner (Industrial).
25. Cooling water system shall comprise of open loop type cooling water circuit for generator air coolers, generator and turbine bearing coolers, turbine shaft seal cooling, Governor/MIV oil sump tank and HP & LP Coolers. Raw water system of each shall be tapped from penstock and pass through the automatic strainer and pressure reducing orifices and then led to the oil and air coolers and then through pump, self cleaning duplex filter, motorized valves, heat exchangers, instruments, piping, fittings etc and discharged to tail pool.
26. Drainage water systems along with piping, valves, fittings, starter panels, water tight manhole doors, two identical pumps (one stand by) and associated equipment for drainage of seepage and leakage water to the tail pool. All seepage and leakage water is led by gullies and embedded drain pipes to drain sump at the bottom of the pit and then pumped to tail pool.
27. Dewatering system comprising of pumps/motors along with piping, indicating & measuring instrumentation, level gauges, watertight doors, starter panels and other associated equipment for dewatering of turbine and draft tube passages. Two dewatering pumps shall be provided for the dewatering the water from dewatering sump adjacent to drainage sump to tail pool. One additional dewatering sump of size 1000x1000x1000 with one additional submersible pump inside it shall be provided for

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

the emergency cases like floods etc. The discharge pipe will be laid separately for discharging the water into the tail pool.

28. One set of HP Compressed air system for supplying pressurized air to governor, inlet valves, generator brakes etc. It comprises of two (one standby) numbers AC motor driven air cooled air compressors, an air receiver of suitable capacity for pressure oil system for turbine and main inlet valve and for air supply to the brakes, pipings, fittings, supports, adequate nos. of isolating valves, pressure reducers etc. One LP pressure receiver with safety valve, pressure gauge and manual drain drop shall also be provided. The air to generator brakes and shaft gland isolating seal shall be supplied from this receiver.
29. One set of Centralized LP Compressed air system for the purpose of providing general compressed air requirements of power house with emergency provision for generator brake and to operate pneumatic tools in workshop, in the machine hall and for maintenance purpose generally. It comprises of two reciprocating compressors (one standby), dryers, air receiver, fittings, instruments, valves, piping, starter panels along with piping and other associated equipment .
30. Erection of 1st stage embedded, 2nd stage embedded and surface/ exposed air, oil, water or any other pipelines for all above systems including fabricating/making site bends, cleaning, clamping, flushing, hydraulic testing as per drawing requirements and standard practices etc. Pipes shall in general be supplied in straight lengths and to be bent at site as per requirement. For medium and large size pipes, regular bends may not be supplied and therefore bends shall have to be fabricated at site.

The ends of the pipelines shall be kept covered during concreting and/or other civil works. Thermal insulation of the pipelines as per requirements given in the relevant drawings of different systems shall be done at site.

31. Finish painting of equipment as per drawing requirements. Paints shall be supplied by BHEL. Painting may also be required on embedded / foundation parts prior to concreting etc.
32. Some of the main tests apart from the routine tests during erection, pre commissioning and commissioning shall include HV, SCC, OCC, load rejection tests upto 110 %, emergency stop tests, over speed tests, turbine & generator output tests, vibration measurement & balancing, etc on all units and type test on one unit. Periodic inspection of the units shall be carried out during commissioning e.g. after spinning/bearing run,

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

overspeed test, load throw off tests and re-tightening of wedges, fasteners etc if required shall be carried out.

33. Any other works required to be carried out which have not been explicitly mentioned above but are essentially required to be carried out to complete the individual assemblies and the unit/ units as a whole including pre commissioning and commissioning.

General:

-Special welding electrodes for main assemblies like draft tube, spiral casing, BF valve inlet pipe with taper piece and outlet pipe of BF valve etc. shall be provided by BHEL manufacturing units. Any additional requirements resulting due to reasons namely but not limited to avoidable mis-handling, poor storage, high rate of rejections due to poor quality of welding or deployment of in-experienced welders etc shall be arranged by contractor at his own cost. General purpose welding rods shall be arranged by contractor at his own cost.

-Insulating materials for stator winding shall be provided by BHEL free of cost.

-Special consumables that are supplied by manufacturing units for erection and commissioning purposes will be issued by BHEL as free issue item. However the contractor shall use them to the satisfaction of BHEL Engineer and keep proper records for accountability

-Operators for one no. EOT crane 75/15 tonne to be provided by the contractor free of cost

-First filling of oil with 10% extra for turbine and generator bearings, OPU system, and transformers shall be supplied by BHEL. Any undue wastage of oil due to mis-handling, poor quality of piping and/ or other works resulting into leakages or spillages shall have to be arranged by contractor at his cost or recoverable from him.

-In order to save time of assembly/erection of spiral casing, the welding shall be carried out by MIG process as far as possible. Two shifts or preferably three shifts working with deployment of sufficient number of certified welders, fitters etc shall be adopted to ensure completion of stay ring and spiral casing assembly in maximum of two months period.

-Since the subsequent units shall have to be erected/ commissioned with a gap of one month from the previous unit, the contractor shall have to complete the rotor assembly in around 1 to 1.5 months by working round the clock in this area. Moreover,

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

three-shift working shall have to be adopted by the contractor to meet the erection schedule.

-In view of the tight erection schedule, limited area in service bay and rotor assembly being in critical path, whatever pre-erection preparatory works can be carried out in BHEL store area shall have to be planned accordingly. In particular, the cleaning, de-burring, de-greasing and segregation of rim punching by weight may be planned and carried out in store area.

-Bidders may note that selection of subcontractors is subject to approval of customer.

-The contractor under this contract shall provide services of skilled/unskilled persons for a total period of 125 Man-months (MM) exclusively for use by BHEL. This manpower will be required for following services:

-Highly skilled workers (Qualified computer operators) for office and stores work for 25 man months, skilled workers for office, colony, stores, maintaining material record for BHEL and non BHEL packages, helping in material identification and dispatch of BHEL T&P items as well as office and site closing, dispatch of material for 50 man months and unskilled workers for office, colony/ stores for 50 manmonths.

Persons so deployed shall have to work in extended hours whenever required. Workmen provided as per the above provisions shall be fully trained and experienced in the nature of work for which they are deployed.

In case contractor fails to provide the services as indicated above BHEL may arrange for the services through other agencies at the risk and cost of the contractor/ recover from the contractor @ USD 300/per MM for highly skilled workers and @ USD 250/per MM for skilled worker and @ USD 200/per MM for unskilled worker.

NDT:

-Stay ring, Spiral, BF valve inlet pipe with taper piece and outlet pipe - 100% Ultrasonically and MPI tested for stay ring spiral joints, circumferential, longitudinal & Tee joints and as per drawing. All other butt welds shall be as per drawing requirements.

DETAILED SCOPE OF INFRASTRUCTURAL WORKS:

1. The Scope for construction of BHEL Closed store, office and development of open yard at SALMA HEP covers all related works like
 - Earth work including excavation, filling,

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

- Plain & Reinforced cement concrete and RR Masonry.
 - Structural & reinforcement steel work, CGI sheet roofing/side cladding & partition work
 - Scaffolding & Formwork
 - Finishing work including plastering, flooring, false ceiling, painting etc.
 - Water supply and Sanitary work.
 - Electrification of Building by providing Incoming cable, Main Distribution Board, Wiring for all installation Light fixtures, power sockets, Exhaust fans, Energy meter Etc
 - MS gates for Entrance/Exit
2. Unless otherwise specified, the work to be carried out by the contractor for the items mentioned in the "Bill of Quantities", shall include but not be limited to the following:
- a) Furnishing all labour, materials, supervision, construction plans, equipment supplies, transport, to and from the site, fuel, electricity, compressed air, water, transit and storage insurance and all other incidental items and temporary works not shown on specified but reasonably implied or necessary for the proper completion, maintenance and handling over the works, except in accordance with the stipulations laid down in the contract documents and additional stipulations as may be provided by the engineer during the course of works
 - b) Furnishing samples of all materials required by the engineers for testing / inspection and approval for use in the works. The samples may be retained by the engineer for final incorporation in the works.
 - c) Furnishing test reports for the products used or intended to be used, if called for the specifications or if so desired by the engineer.
 - d) Giving all notices, paying all fees, taxes etc. in accordance with the general conditions of contract, that are required for all works including temporary works.
 - e) Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.
 - f) Providing all incidental items not shown or specified but reasonably implied or necessary for the successful completion of the work in accordance with contract.
3. The contractor shall be fully responsible for the proper and accuracy layout, alignment, orientation of all elements of the construction work which shall be carried out by him accurately in accordance with drawings and obtaining clarifications from BHEL/Architects if required by him, including for any discrepancy if any, before the work is executed by him. The setting out and the construction work shall be carried out by suitable precision instruments and checked from time to time and got approved. The

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

contractor shall provide all equipment and instruments as required at the site at his own cost.

Open Storage Area

Storage area of approximately 5000 sq.m fairly leveled and compacted shall be provided by customer WAPCOS. Contractor shall provide and install app 275 running metre of barbed wire fencing consisting of 6 rows of barbed wire at a spacing of 250-300 mm supported on angles (60x60x5mm 1.8 mtr long) embedded (300 mm in ground and 1.5 mtr above ground) at spacing of 2.5 metre each. Contractor shall also provide and install a 2 part 5 metre wide (2x2.5Metre), fabricated grill type steel gate 1.5 meter high (Sketch enclosed as Annexure-I) supported on RCC or steel piers/columns on both sides. One small room adjacent to the gate shall be constructed for the security check post and provided with required furniture. 15 electric poles 4 metres above ground with fittings shall be provided in store area for proper illumination.

Closed Storage Shed

The store shed shall be developed on land given by WAPCOS /BHEL having the built up area of approx. 40x12=480 Sqm as per sketch enclosed at Annexure-II.

The Store area shall be cleared of all vegetation, scrap and debris. The stores shall be made of I-Beam columns, tubular truss, purlins, side ties, bottom ties, wind ties of minimum 25mm x 5mm over the roof sheets along the purlins, as specified(drawings attached for reference). The working/shop drawings for Steel structures, trusses, etc shall be got approved before start of work.

The columns are erected with holding down foundation bolts in the RCC 1:1.5:3 (using 20 mm size coarse aggregate) foundation of pedestal size 1500mm high 500x400 mm minimum and raft size 1500x1500x300 mm. The raft is to be provided with a reinforcement of 10mm bars @ 125mm C/C both ways and the pedestal is to be provided with 4 no. 16mm & 8 no. 12 mm bar vertically with a minimum 'L' of 200mm and with 8mm stirrups @ 150 C/C. The foundation is to rest over 100 mm PCC on firm rock / ground as instructed / approved by Engineer-in-charge. Corrugated GI sheets 0.80 mm thick shall be provided with GI or polymer coated J or L hooks, 8mm nut bolts for roofing and side cladding with appropriate anchoring, fixing and drainage arrangements. Approved quality Enamel paint shall be used for painting work to MS Structure. Below the Finished floor level Random rubble masonry of 30 cm width course, to a depth of 700 mm minimum, in cement mortar 1:6 is to be laid which shall rest on top of 300 x 300 mm plinth beam (6- 16 mm dia bars and stirrups 8 mm @ 200 mm c/c). The base course under plinth beam shall be PCC 100 mm thick and 400 mm

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

wide. The top of the plinth beam shall be 300 mm below the existing ground level. The finished floor level of the stores shall be atleast 200 mm above existing ground level. The Store flooring consists of raising the Ground level by filling locally available good earth and 100 mm PCC over which approved CC flooring is to be laid as specified. The extended outside portion is of 750 mm wide plinth protection as specified. Extended roofing shall also be provided as per the instructions of the Engr. I/C. MS Sheet 0.63 mm hinged shutters (5.0x 5.0 mtrs) with MSA bracings (shop drawing to be approved by BHEL and to be prepared by the contractor) complete with all bolts, anchors, etc. Outside plastered area shall be provided with cement based paint of approved shade, colour and make. Contractor to note no fixtures, specials or any material will be given for any work which is required for the completion of works. Average 300 mm deep and 300 mm wide drains shall be constructed along the plinth protection as per directions of the Engr I/C.

Store Office area shall be tentatively of 4.0 x 3.5 m size with 200 mm thick and 2.5 mtr high RR masonry with Decorative blockboard doors and MS windows as per relevant Standard/Code, plastered with CM 1:5, 12mm thick minimum both side, finished with 2 coats of distemper over a primer coat as instructed by Engineer in charge.

The steel door is to be painted with two coats of approved synthetic enamel paint over a red oxide primer coat.

It is proposed to electrify the closed shed as follows:

- 4 Nos HPSV flood light fittings with lamps of 250 W with Choke & accessories etc. each to be provided on top of store shed with 2 mtrs. high rigid GI pole provided with adequate brackets for mounting the flood lights. Two lights should be provided with independent MCB switch.

The connection to all HPSV fittings is to be provided by 2.5 Sq. mm PVC insulated copper conductor in PVC conduit for fittings mounted on store shed.

Providing 15/5 Amps Single phase sockets as per instructions.

Providing pedestal fan & air circulator & heavy duty exhaust fan as per instructions.

Providing common main panel to cater requirement of all total layout, laying incoming cable for the above panel from the DG set to be provided under the scope of this contract.

Providing earth electrode and earth conductors as per requirement.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

The scope of work has to be completed in all the manner to meet the functional requirement by covering all the left out allied work in BOQ thereby to complete the stores as a whole.

Complete Electrification alongwith necessary lighting-fixtures, fans, necessary cables, MCB, ELCB, Main switch, Energy meter, Junction box, switches, switch boards, Plug points etc. are in the contractor's scope so that installation is fully safe & meets local authorities statutory requirement. The necessary covers required for the MCB, energymeter etc., are to be provided by the contractor.

All the material used to be approved by Engineer-in-charge and in case of non-availability of approved make of material, BHEL Engineer-in-charge is authorized to substitute the same.

Construction of Office

Construction of one office shed 16M x 10M x 3.5 M (clear height) with one room 5mx4m with attached toilet, one conference room 5m x 4m, 2 nos. rooms 4mx3m each, 1 no. room 4Mx2.5M, 1 no. room 5mx3.5m with pantry and 8.5Mx4M open space for visitors, 1 no. common toilet facility suitable for 3/4 persons.

The office shed shall be developed near powerhouse having the built up area of Approx. 160 Sqm. on land given by BHEL. The layout plan of the office block is attached as Annexure – III for reference.

The office along with a 5X4 mtr porch on the front side shall be made of STONE/RUBBLE MASONRY, truss, bottom ties, wind ties of minimum 25 x 5mm over the roof sheets along the purlins, Corrugated GS sheets. The foundation is to rest on firm rock / ground as instructed / approved by Engineer-in-charge and around 900 mm below existing ground surface.. The stone masonry foundation is to rest over 75 mm PCC on firm rock / ground as instructed / approved by Engineer-in-charge. **Corrugated GS sheets** of approved colour, shade & pattern shall be provided with polymer coated J or L hooks, 8mm nut bolts for roofing with appropriate anchoring, fixing and drainage arrangements. Approved quality Enamel paint shall be used for painting work to MS. The wall above Finished floor level is of stone masonry of min 300 mm width course, to a height of 3000 mm minimum, in cement mortar 1:6 and plastered with CM 1:5. Below the Finished floor level stone masonry of 450 mm width course, to a depth of 200 mm minimum, in cement mortar 1:6 is to be laid which shall rest on top of PCC 100 mm thick and 600 mm wide. Above 450mm wide course shall be 400 mm wide masonry of height 600 mm , a plinth beam of size 300x230 mm shall be provided all around (extra

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

tie beams wherever reqd.) with bottom of plinth beam at 0.00 lvl and 300 mm wide stone masonry thereafter.

The finished floor level of the office shall be at least 400 mm above existing ground level. The main office flooring consists of 100 mm minimum thick PCC over which approved cement concrete flooring are to be laid. The all round walls, of 300 mm thick and inside walls (200 mm), partitions over a DPC course of CM 1:5 & 40mm thick with water proof compound (1kg per bag of cement), are to be constructed with stone work in CM 1:6 and plastered with CM 1:5, 12 mm thick minimum on both sides, the inside plastered surface is to be distempered with two coats minimum over a priming coat and the outside plastered surface is to be painted with approved snowcem or equivalent cement paint with two coats minimum over a priming coat.

The doors and window frames and shutters are to be made of approved M.S/wood frame. Main entrance door shall be of MS section, pivoted and provide with lock, Al safety grill, handles, etc. The wooden decorative flush door shutters minimum 35mm thick, solid core block board, with both side laminated with thick to 0.8 to 1mm. The windows (1500 x 1200 or as specified) are of steel/wooden glazed shutters double leaved and central portion (fixed with glass panel of 4mm thick). Frames are to be provided with 12mm MS bars @ 120mm intervals. The door & windows are to be properly fixed with the wall using hold faster/anchor grouted of minimum 200mm long. The doors will have flush shutters, with all fixtures like aldrops, tower bolts, handles, locking arrangement, wind stopper etc. and similarly the windows will have fixtures like hook and eye, towel bolts, minimum of two handles, etc. There shall be a lintel beam at +2100 lvl as per instructions.

There will be ceramic wash basins of approved colour & make, one at Construction Manager's room and others in general toilet alongwith mirror of size 600 x 450mm minimum, towel rail, soap dish etc. There will be European ceramic water closets of approved colour and make. All required G.I. water lines (min 15mm dia), sewer lines (100mm – 150mm), soak pit of minimum 1.2mm dia and depth to suit at site, fixtures required for proper functioning like traps, chambers wall plugs, clamps, screws, (low height fibre made) Flushing cisterns of minimum 5Ltr capacity each. Taps for water wash basins & toilets along soap dish etc. are in the contractor's scope. Contractor to note no fixtures, specials or any material will be given for any work which are required for the completion of works. The pantry is to be provided with kitchen sink and counter with Granite stone top.

The false ceiling shall consist of 12mm thick Gypsum board/ply board laid over Aluminium/GI Tees and edge angles at a grid size of 600mm x 600mm with arrangements for lighting fixtures, Fans etc as per instructions.

Wiring for light point, fan point etc. are to be with 1.5 sqmm PVC insulated conductor wire. Wiring for a 3 pin 250 volts 5/15 Amp single phase and neutral switch socket outlet, with 2.5 sqmm PVC insulated conductor wire. The wiring is to be done with good

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

and approved quality PVC conduits of 19mm dia, above false ceiling and concealed PVC conduits below false ceiling. The fans of size 52 inch and tube light fittings of approved ISI makes are to be provided. The switches are to be modular switches of approved make are to be used. The three phase distribution with three phase energy meter with reqd. ELCB is in contractor scope. All samples are to be got approved by the Engineer-in-charge before the purchase and installation.

One 500 Ltr. PVC Syntax/ Rotax / Polymer make water tanks is to be provided at side of the building with supporting structure of 3.60m height made with 65 x 65 x 6mm and 50 x 50 x 6mm angles duly painted with 2 coats finish paint over a primer coat provided and the required incoming and outgoing water lines to the services with minimum 20mm dia GI pipe, is in the contractor scope only. The incoming GI line is to be laid from nearby water line source (which is feeding surrounding place) up to overhead tanks and one direct line is to be provided in the pantry.

The Plinth level of the building is to be decided at site to suit the site condition by the Engineer-in-charge. The relevant Indian standards are to be followed for all works.

The entire scope of work is with the contractor and BHEL will not provide any material, manpower etc. for the satisfactory completion of work. The decision of the Engineer-in-charge is final and binding.

Incoming supply will be drawn from identified power source (DG set to be provided by bidder under scope of this contract and specified elsewhere in the specifications) with at least 3 ½ core 95 Sq. mm Aluminium Conductor Armoured PVC insulated cable will be laid underground & on surface duly supported. Suitable size GI pipe is to be provided for Road crossing. Connections at both the ends will be made by suitable size lugs & double compression glands. The minimum depth of the cable shall be 300 mm where no vehicles or equipment movement is there. Whenever the vehicles or equipment movement is there, the depth of cable should be 800 mm or to be provided through GI pipe of suitable size.

Temporary sheds:

The temporary sheds/shelters shall be developed/constructed to cover some of the sensitive packages like stator sectors, panels etc) already received or to be received which cannot be shifted inside the covered store. Total built up area of such sheds may be approx. 200 Sq mtr with different height upto about 3500 mm.

The temporary sheds area shall be cleared of any vegetation, scrap and debris. The stores shall be made of Pipe/tubular columns, tubular/angles truss, purlins, side ties

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

along the purlins, as specified(drawings attached for reference). **The working sketch for such temporary sheds shall be discussed with site engineer before start of work.**

The Tubular columns are erected with holding down column members in the RCC 1:1.5:3 (using 20 mm size coarse aggregate) foundation of pedestal size 500x500x500 mm. **Corrugated GS** sheets shall be provided with polymer coated J or L hooks, 8mm nut bolts for roofing and side cladding with appropriate anchoring, fixing and drainage arrangements. 50 mm/32 mm dia tubular pipes may be used for MS trusses and purlins for temporary stores.

Residential flats at site:

Four nos. 4- room flats will be provided by customer at site. Necessary furniture, equipments and furnishings as called for in the BOQ shall be provided. Proper and hygienic mess facilities for office as well as residential premises with cooks, helpers for average about 8-10 persons shall be provided. All water pipes/tanks to be covered with glass wool keeping in view severe cold conditions expected at site. Final details as per instructions of BHEL site engineer.

Guest House at Herat

One no. two room house/ flat accommodation shall be maintained by contractor as a guest house facility with caretaker at Herat, Afghanistan for visiting officers of BHEL from site or in transit from India/ Kabul to site. Maintenance of all facilities such as furnishings, tapestry, beds, linen, tables chairs, almirahs geyser, air conditioners/heaters in each room, TV with dish antenna etc. has to be provided. Proper and hygienic messing facilities with cooks, helpers shall be provided.

One official/caretaker of contractor stationed at Herat for above facility shall also coordinate with BHEL and other local customs/Govt. Agencies and Indian consulate for liasoning. Arrangement of vehicle shall also be made by contractor for pick up and drop of BHEL officials from/at airport including for local use. This facility is estimated to be used for approx 7 days in a month during the period of approx 24 months.

Vehicles at Site and Herat

At Site

One AC vehicle during initial about 12 months and two AC vehicles for balance contract period with Driver, fuel and consumables shall be provided by the contractor. The vehicle to be provided shall be Pajero/Paredo/Surf or equivalent as are usually

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

available in the nearby areas. The vehicle shall be used for local operations as well as for occasionally visiting Herat or nearby areas in connection with official duties. Average running shall be approx 2000 KM per month per vehicle. Fuel charges for any excess/under utilization of running KM w.r.to 2000 KM shall be payable/ recoverable as calculated @ average of 7 KM / litre of fuel at the rate applicable during that particular month. Maintenance of the vehicle shall be taken care by the contractor at his own expense.

At Herat

Additionally one AC vehicle at Herat with driver, fuel, consumables for exclusive use of BHEL/BHEL's vendors for local and Herat-Site-Herat visits for total contract period (for occasional use for about seven days per month).

Notes:

Infrastructural works and facilities to be provided by the contractor as detailed in above paragraphs which are the property of the contractor, shall be required for the entire period of execution of works after which the contractor shall be free to dismantle and take these items from site. No separate payment of any type shall be payable for this and quoted prices shall take care of this.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

ANNEXURE-A

BRIEF DESCRIPTION OF MAJOR E & M PACKAGES

NOTE: The intent of giving the description below is to give a broad and fair idea to the bidder regarding the size and specifications of the main generating equipment involved in E&M package AND it shall not restrict the amount of erection work involved to sizes and specifications etc mentioned therein since minor variations in design are a normal feature in such large projects. The bidder shall have to carry out the total erection work as per the actual equipment supplied and as in the scope of work.

A) Turbine

Embedded parts: The embedded parts comprise mainly of pier nose liner, draft tube knee lining, draft tube cone and embedded pipelines in primary concreting.

The pier nose liner is supplied in single piece weighing 0.9 tonne and is of 1500 mm in length and 1463 mm wide.

The draft tube knee lining weighing approx 6.91 tonnes with inlet diameter 2280 mm and rectangular outlet section 6161 mm wide & 1317 mm high is fabricated from 8 mm thick plate and is supplied in 2 pieces. 56 no. holes of $\Phi 100$ mm have been done in the lower portion of the lining for concreting which are to be plugged at site. After concreting, grouting holes, wherever required, shall have to be done at site and plugged after grouting. All butt weld joints and plugs shall be checked by 100 % dye penetration during erection. 6 no. foundation plates have been foreseen for pedestals of draft tube knee lining.

The draft tube cone is supplied in single pieces and weighs app 4.85 tonnes. On the top, cone is bolted to extended foundation ring and at bottom, it is bolted with draft tube liner by 40 nos. M36 bolts. Top and bottom diameters of cone are 2015 and 2280 mm respectively.

The embedded pipelines weighing total about 8.79 tonnes for all units have been foreseen in primary concreting which mainly comprise penstock drain, draft tube drain, sleeve for drainage valves, air supply line, pressure relieving pipe from top cover etc,. The drainage boxes of draft tube and penstock drain are to be welded at site. All welding shall be checked by DP at site.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

The embedded tubes for field efficiency test of turbine weighing 17 T approx for all the units has been foreseen. Major portion of this piping will be embedded in first stage concreting, rest is exposed piping.

Foundation parts: The foundation parts comprise mainly stay ring, spiral casing, inlet pipe with taper piece for BF valve, outlet pipe for BF valve, foundation ring, lower and upper pit liner and embedded pipes in secondary concreting.

The stay ring with outer diameter approx. 3150 mm, throat height of 587 mm and weighing approx 05 tonnes is supplied in single piece. Center line of the stay ring is at EL 1549.56 mtrs. It is bolted with M30 studs & nuts to turbine top cover at top and pivot ring at bottom.

The spiral casing is approx 12 tonnes in weight with inlet diameter of 2074 mm. The spiral casing is supplied in about 9 segments with plate thickness varying from 16 to 20 mm which are to be finally matched, assembled, and welded at site with the stay ring. NDT shall be carried out on stay ring and spiral casing as per drawing requirements.

Three makeup pieces have been provided with erection allowance to be matched at site. Edge preparation in few sections may have to be done at site. The weld quality shall have to be ultrasonically/ MPI tested as per drawing requirement.

The assembled stay ring & spiral casing shall be hydraulically tested at site to check for soundness of weld joints. The central test plug bolted type is in single piece and bolted to stay ring. The spiral test cone (16 thick) is supplied in single piece shall be welded at spiral inlet end for pressure testing. The spiral casing shall be kept pressurized during the process of concreting.

BF Valve assembly: BF Valve weighing 17.49 tonnes of sealing 2060 mm is dispatched in assemble condition to site. It is bolted to outlet pipe with dismantling joint on D/S and inlet pipe with taper piece on U/S. It has rubber sealing arrangement for maintenance of main seal on D/S side. Two hydraulic servomotors, one on each side of the valve shall be provided.

Inlet pipe with taper piece for BF valve: The inlet pipe of thickness 25 mm shall be in single piece weighing 3.78 tonnes and of tapered type from 2460 mm dia to 2210 mm dia. It shall be welded at site with penstock at large end and bolted/flanged to MIV at small end. The length of inlet pipe with taper piece is approx. 1900 mm and it has cutting allowance at one end which is to be cut to suit site assembly. Weld preparation

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

at one end to be made as per drawing. Site joints shall be subjected to 100% ultrasonically & MPI tested as per drawing.

Outlet pipe with dismantling joint for BF valve: The outlet pipe of thickness 16 mm shall be in single piece weighing approx. 4 tonnes and of inside dia of 2074mm. It shall be welded at site with spiral inlet and bolted/flanged to MIV. The length of outlet pipe is approx. 3480 mm and it has cutting allowance at one end which is to be cut to suit site assembly. Weld preparation at one end to be made as per drawing. Site joints shall be subjected to 100% ultrasonically & MPI tested as per drawing.

Pit liners: The upper and lower pit liner together is approx. 4.1 tonnes in weight. Upper pit liner shall be supplied in two halves which is to be assembled and welded together at site. All site weld to be DP tested 100%. The plate of thickness of lower & upper pit liner is 6 mm. The inner diameter of lower pit liner is 3600 mm and of upper pit liner diameter is 2900 mm. The upper pit liner has pockets for installation of two nos. guide vane servomotors and lower pit liner has an opening of 3000 mm width for runner removal.

Embedded pipe lines in secondary stage foundation: for various functions have been provided for all 3 units. Necessary cutting in pit liner etc wherever required for the embedded pipelines, pickling etc shall have to be done at site. Pipes shall in general be supplied in straight lengths and to be bent at site as per requirement. For medium and large size pipes, regular bends may not be supplied and therefore bends shall have to be fabricated at site. The pipes are to be layed and welded at site as per drawing. All welds are to be 100% DP tested. All pipes are to be hydraulically tested at site after welding.

Guide apparatus: 20 guide vanes of feather height approx 460 mm are located at PCD of 2208 mm. Regulating ring is located inside the guide vane PCD. Top cover is in single piece. Weight of top cover is 3.163 tonnes. Pivot ring is in single piece weighing 2 tonnes approx. Two servomotors are mounted on base plates to be installed / leveled at site.

Runner & shaft assembly: The Francis type runner assembly with OD 2016 mm and height 1072 mm is in single piece weighing approximately 4.7 tonnes. The runner cone is to assembled at the bottom of the runner.

The turbine shaft 3840 mm long is flanged type at both ends with guide bearing journal of diameter 850 mm. This is bolted to runner at turbine end with 12 nos. fitted bolt of dia 76 mm. Upper flange of turbine shaft is bolted with 12 nos. fitted bolt of dia 76 mm to generator shaft bottom flange.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

Turbine guide bearing: Self pumping lubrication pad (6 nos.) type guide bearing in 2 halves weighing 1.73 tonnes has been foreseen. 4 nos. plug in type coolers are mounted inside the guide bearing housing. Other essential instrumentation for temperature, level sensing etc have been provided. The joints are to be applied with loctite to be arranged by the erection contactor. The dowelling at bearing housing with top cover shall be done at site after centering of bearing housing.

Turbine shaft sealing: Rubber type sealing has been provided which is assembled on a bracket to be mounted on the top cover. Inflated type maintenance seal has also been provided. The rubber ring shall be sealing against the rotating sleeve to be fixed on the turbine shaft flange.

Other standard assemblies: Various assemblies like feedback system, top cover drain pumps, oil pumping system, oil air receives, oil leakage unit as generally provided in any hydro unit are all foreseen which shall be erected at site.

Feedback mechanism: It comprises of a mechanism to transmit the guide apparatus movement signal to the hydro mechanical cabinet (HMC) of governor. This is achieved through a wire rope with necessary brackets and versatile rollers connected from regulating ring to master switch and in turn to HMC.

Installation of metering instruments: Pressure and temperature measuring instruments are installed on this metering panel to measure the pressures of different points like spiral casing, draft tube, sealing air & water pressures, servomotor closing & opening pressures etc. The pipelines shall be hydraulically tested to required pressures.

Monorail assy: Monorail assembly weighing 0.3 tonne has been provided in the turbine pit to handle various components of guide apparatus and guide bearing etc.

Platform in turbine pit: Chequered plate platform has been foreseen for easy movement in the pit. Plates are fixed over the angle frame for which matching holes are to be done at site.

Oil, water, air pipelines: Pipelines after erection shall be tested at required pressures as per drawing requirement. Pipes shall be cleaned, properly clamped, painted at site.

B) Generator

The generator is of vertical shaft Semi Umbrella type construction with closed air circuit ventilation and suitable for coupling to a Francis turbine. Static excitation system is

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

provided for energizing the field winding of rotor. This supply is fed through slip rings located above the generator rotor on a tubular shaft.

The generator combined thrust bearing and a guide bearing is positioned below the rotor and one guide bearing above the rotor. The bearings are of self-lubricating type and immersed in oil bath in which plug-in type oil coolers are provided. Thrust bearing is provided with high-pressure oil injection (HS Lubrication) system. Air operated brakes are mounted on lower bracket arms. These are also used for lifting the rotor for maintenance purposes. For trapping and subsequent evacuation of the brake dust generated during braking operation, brake dust collection equipment has also been provided.

Air coolers are directly mounted on the outer steel casing of stator. CO₂ type fire extinguishing system is provided. For monitoring the vibrations on the bearings of the machine, an on-line (continuous) monitoring system has been provided. Creep running of the machine is detected through a creep detector and shaft current monitor is also provided.

General description of various assemblies

Stator: The wound stator shall be dispatched to site in three segments. The total weight of wound stator shall be 47 tonnes. Total lifting weight of stator including lifting bracket is 58 tonnes. The stator frame A/F is 6730 mm and height is 2400 mm. Joint winding of stator has to be carried out at site. HV test is to be carried out on complete stator at site. The thrust collar is separate which is to be pressed / assembled at site.

Main Generator Shaft & Thrust Collar: The shaft is having integral thrust collar for thrust & guide bearing .

Spider: Rotor spider is a fabricated structure in single piece on which rotor rim building will be carried out at site. The weight of spider is approx. 9 tonnes.

Rotor Rim: The rotor rim, which is assembled around rotor spider at site, is built up from sheet steel laminations. The laminations are pressed between steel end plates during assembly and clamped by means of tight fitted studs. The rim segments do not have equal weight due to variation in thickness. Therefore, all the laminations are required to be degreased, cleaned, de-burring if any, segregated in groups of equal thickness by weight measurement and accordingly assembled. The rim is secured tangentially to the rectangular bars of the spider with sets of 5 part keys having a master key, so as to allow the rim to float freely during operation. As such, no hot wedging shall

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

be required to be carried out. Broaching of the rim shall have to be done at site as is usual in rim type rotors.

Poles with Field Windings: There are 20 poles each having 2 no. 'T' shaped tails to engage with corresponding 'T' shaped slots in rotor rim. Damper connections have also been foreseen. The weight of each pole is 660 kg.

Slip Rings & Brush Gear: The slip rings are mounted on the tubular shaft during erection. The brush-gear collector shall be mounted on tubular shaft which is mounted on upper bracket.

Carbon Dust Collection System: Necessary arrangement is provided to prevent mixing of carbon dust with closed air ventilation system of generator. A small centrifugal fan is provided on extension shaft under the slip rings assembly. The carbon dust is collected in the cleanable filters mounted on the brush gear casing.

Bearings:

Thrust Bearing: Thrust bearing is positioned below the rotor in bottom bracket. Thrust bearing is of spring mattress with segmental pad type consisting of a set of 12 nos. babbited segmental pads. The bearing is of self-lubricating type and immersed in oil bath in which plug-in type of oil coolers are provided.

Guide Bearings: One no. segmental pad type of guide bearings is provided for generator along with thrust bearing housed in lower bracket. Another guide bearing is housed in top bracket. The guide bearing is of pivoted pad type consisting of 12 nos. babbitted pads.

Hydrostatic Lubrication System: A high-pressure oil system is provided for the thrust bearing in order to create a positive oil film over the pads at low speeds. The components consist of a positive displacement pump with its motor, filters, valves etc. mounted on a steel base.

Ventilation: The generator has closed circuit system of ventilation. Air coolers are to be assembled to the outer periphery of the stator frame.

Upper Bracket: The upper bracket consists of a fabricated steel structure having a central part and 6 nos. radial arms. The arms are to be bolted to the central part at site. It supports the weights of the stationary parts of brush gear, generator covers, mechanical over speed device, creep detector, speed signaling generator (S.S.G) etc. Total weight is 9.5 tonnes.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Works

Lower Bracket: The lower bracket is of fabricated steel structure. The guide bearing and thrust bearing is housed in it along with oil coolers. Brake-cum-jack units are also mounted on the bracket for rotor braking. The total weight is 11.5 tonnes.

Bracking and Jacking System: has been provided for the braking of the unit during stopping and jacking whenever required.

Brake dust collection equipment: The brake dust collection equipment consists of two extraction units for each hydro generator, hoppers around brake assembly for trapping the brake dust and flexible hoses for connecting hoppers to extraction unit.

Cooling Water System: Cooling water pipe lines along with pressure gauge and flow monitoring instruments are provided to supply cooling water to air coolers and oil coolers.

Major instruments & devices:

- Mechanical over speed device.
- On line condition monitoring system for vibration.
- Creep detector system.
- Speed signaling generator

CO₂ type Fire Extinguishing System:

Carbon dioxide type fire extinguishing system has been provided. Smoke detectors are provided in all the generators with common control panel.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – III: Time Schedule

3. Time Schedule

3.1. Mobilization, Time Schedule, Contract Period and Grace Period

3.2. Initial Mobilization

After receipt of LOI, Contractor shall discuss with Project Manager / Construction Manager regarding initial mobilisation. Contractor shall mobilize necessary resources within 2 weeks of issue of letter of intent or as per the directive of Project Manager / Construction Manager. Such resources shall be progressively augmented to match the schedule of milestones and commissioning. However, BHEL Engineer will certify the actual date of start of work after adequate mobilisation of manpower, T&P and other pre-requisites as stated in the contract.

3.3. Contract Period

Erection work is expected to commence immediately after award of LOI. Erection, testing, commissioning and trial run operation as detailed in the tender specifications shall be completed for all three units within 20/22/24 months respectively from date of start of erection work.

The work under the scope of this contract is deemed to be completed in all respects, only when the contractor has discharged all the responsibilities laid down in the contract. The decision of BHEL on completion date shall be final and binding on the contractor.

3.4. Consequence of Delay

It may be noted that in the event, delay in completion is attributable to the contractor and leads to imposition of liquidated damages by BHEL's client, BHEL will impose LD on the contractor as per Clause GCC 2.7.9.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – IV: Tentative Weight Schedule

4. Tentative Weight Schedule

Tentative weights & dimensions of some of the major equipments are given below for reference.

S.No	Item description	Gross wt appx. Kg	Length mm	Breadth mm	Height mm
1	DT Knee (2 pcs)	6900	-	-	-
2	Stay ring in one piece	5000	3200	3200	1000
3	Stay ring and spiral casing	22400	-	-	-
4	Runner	4800	2100	2100	1100
5	Turbine top cover (One pc)	3200	-	-	-
6	BFV assembled	16000	-	-	-
7	Stator sector 1/3rd	18000	6600	2260	2900
8	Rotor Pole	650	-	-	-
9	Top brkt central part	5500			
10	Bottom brkt assy	13000	3180	3180	2200
11	Generator shaft	11000	5500	2140	1600
12	EOT Bridge girder	13080	12000	1000	2000
13	EOT Trolley	13040	4500	3000	3000
14	EOT bridge girder	6080	5000	1000	2000
15	Trolley	7040	4500	2000	3000
16	EOT testing cradle	10040	10000	3000	1000
17	Turbine shaft	5300	-	-	-

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – IV: Tentative Weight Schedule

Note:

The total material to be supplied for the project is approximately **1900 Tonne**. The dispatches are continuing since about a year and approximately 80-85 % materials have already reached at project store area which is located near WAPCOS colony in Chiste-e-Sharif and is about 9 KM from power house. The contractor has to handle whatever actual materials are dispatched for the project irrespective of any variations and payments shall be released for the actual gross tonnage handled.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – V: Rate Schedule/BOQ

5. Rate Schedule/BOQ

5.1. Rate Schedule

Contractor shall fully understand equipment description and scope of work before quoting. The scope of work and responsibility of the contractor as mentioned under these specifications shall be covered within the quoted rates.

Bidders shall quote Prices in **US dollars** for all the items and bids shall be evaluated accordingly.

The tenderer shall quote the rates as per following **Rate Schedule** only. Conditional price bids or price bids with any deviation/ clarification etc. are liable to be rejected. No cutting/ erasing / over writing shall be done.

The contractor undertakes to handle actual quantities as per advice of BHEL Engineer. Quantities mentioned in the Weight Schedule are approximate only and liable for variation due to change of scope of work / variation in schedule of quantities, changes in design etc. The quantities indicated against each item may vary to any extent and no compensation will be payable in variation of Individual quantity.

Running and maintenance of DG sets for total construction power for power house, EOT crane, switchyard, other work sites, BHEL office etc and for stores is in the scope of contractor and no separate payment shall be made for this.

Maintenance of office, residential equipments etc. furnished by the contractor shall remain in scope of the contractor.

Infrastructural works and facilities to be provided by the contractor as detailed in above paragraphs which are the property of the contractor, shall be required for the entire period of execution of works after which the contractor shall be free to dismantle and take these equipments/items. No separate payment of any type shall be payable for this and should be suitably built up in the bid prices.

Bidders to quote accordingly. Contractors are required to take above into account while quoting. The contractor confirms that unit rates quoted above takes care of such variation during execution stage.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – V: Rate Schedule/BOQ

RATE SCHEDULE - SALMA DAM HEP AFGHANISTAN					
S.No.	Brief description of work	Unit	qty.	Unit Rate, inclusive of all taxes / duties / levies. in USD	Amount in USD
1	2	3	4	5	6
1	E, T & C works				
1 (a)	Lumpsum price for erection, testing, commissioning, trial operations & handing over of Francis Turbines, Generators, Excitation systems and their auxiliaries etc of 3 x 14 MW HYDRO UNITS OF SALMADAM HEP as per the tender specifications.				
2	Material handling				
2 (a)	Rate in USD/ Tonne for receipt, safe unloading (from trucks/ trailers) with mobile crane in project store OR with EOT crane in power house and stacking on wooden/ concrete sleepers/ packings. Refer Clause 2.1 A (Chapter-II, Part I, TCC)	Tonne	app 500		
2 (b)	Rate in USD/ Tonne for loading of materials / equipments from project stores with mobile crane on truck/trailer and transportation to & unloading at power house or work	Tonne	App 1900		

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – V: Rate Schedule/BOQ

	site for erection with EOT crane or mobile crane/ alternate method.				
2 (c)	Rate in USD/ Tonne for verification, proper storage, stacking and preservation of materials / equipments received including materials already received and unloaded by other contractor in project stores / power house	Tonne	App 1700		
2 (d)	Rate in USD/month for providing services of mobile crane 20 tonne capacity for material handling at project stores including its running and maintenance. (Refer scope of work clause 2.1 N, Chapter II, Part I, TCC)	month	24		
3	Office shed 16M x 10M x 3.5M - 1 No. -As per specifications in the main document & sketch Annexure III	Sq Mtr	160		
3 (a)	Table - executive App 6' x 3'	Nos.	1		
3 (b)	Table - executive app 5' x 2'8"	Nos.	5		
3 (c)	Table - non-executive app 4'6" x 2'6"	Nos.	2		
3 (d)	Sleek Computer Table	Nos.	3		
3 (e)	Chairs - Swivel high back	Nos.	6		
3 (f)	Chairs - Swivel Normal back	Nos.	2		

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – V: Rate Schedule/BOQ

3 (g)	Chairs- visitors & conf room	Nos.	18		
3 (h)	Side racks	Nos.	8		
3 (j)	Almirah with lockers - Big	Nos.	5		
3 (k)	Refrigerator 220-250 Ltr.	Nos.	2		
3 (l)	Water cooler - Cap. 50 Ltr.	Nos.	1		
3 (m)	Photocopier machine for A3 & A4 size - CANON 3050 or equivalent.	Nos.	1		
3 (n)	Wall mounted fans App 400-450 mm or ceiling Fans app 1200 mm incl installation	Set	10		
3 (p)	Computer Desktop or Laptop - Pentium P4 with webcam	Set	3		
3 (q)	Laser Printer - Colour HP Make or equivalent	Nos.	3		
3 (r)	Scanner - HP scan jet G2410 or equivalent	Nos.	1		
3 (s)	Fax machine	Nos.	2		
4	Storage - covered and open				
4 (a)	<u>Stores shed - 40M x 12M - 1 Nos.</u> As per specifications in the main document	Sq.M	480		
4 (b)	Open storage area of approx. 5,000 Sq.M.-				

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – V: Rate Schedule/BOQ

	<p>i) Fencing (App 275 running metre) of open store area with provision of 5 metre wide gate and security check post. (As per specifications in the main document).</p> <p>ii) 15 electric poles 4 metres above ground with fittings in store area for proper illumination</p>	<p>Running mtr</p> <p>Lumpsum</p>	<p>275</p> <p>Lumpsum</p>		
4 (c)	<p>Construction of temporary covered sheds of steel and GS sheets over some of the sensitive packages (Like stator sectors, panels etc...) as per specifications in main document with</p> <p>i) Height upto 2.5 mtrs</p> <p>ii) Height 2.5 to 3.5 mtrs</p>	<p>Sq Metre</p>	<p>App 100</p> <p>App 100</p>		
5	Furnishing of Residential Camp: Providing following furnishings in each of the 4-room 3 no. bare quarters				
5 (a)	Double bed with coir foam mattress in master bed room, single bed with coir foam mattress in other two rooms with bed sheets, pillows and pillow covers, wall to wall carpet and curtains.	Set	3		
5 (b)	5 seat Sofa set – one each in each quarter	set	3		
5 ©	Refrigerator app 165 litre – one each in each quarter	no.	3		

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – V: Rate Schedule/BOQ

5 (d)	Air cooler – 3 each in one quarter	no.	9		
5 (e)	21 " colour TV – one each in each quarter	no.	3		
5 (f)	Steel Almirah full size- three in each quarter	no.	9		
5 (g)	Study tables with 2 chairs in each room	set	9		
5 (h)	Dressing table – one each in each quarter	no.	3		
5 (j)	Set of 3 Quilts and 3 blankets in each quarter	set	3		
5 (k)	Electric Iron	no.	3		
5 (l)	Emergency light -one in each quarter	no.	3		
5 (m)	Set of 4 Buckets with 4 mugs in each quarter	no.	3		
5 (n)	Washing machine automatic -one in each quarter	no.	3		
5 (p)	Electric kettle -one in each quarter	no.	3		
5 (q)	Heaters/ blowers - 3 in each quarter	no.	9		
6	Providing mess facility in one of the quarters allotted for app 8-10 persons with items listed below	Set	1		
6 (a)	Providing 6' x 3' eight seat sun mica	Set	1		

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – V: Rate Schedule/BOQ

	top dining table with 8 cushioned seat dining chairs and one no. 5 seat sofa set with 4' x 1 ¾' centre table.				
6 (b)	Crockery, cutlery, cooking utensils, gas stove with cooking gas connection, electric kettle, emergency light	Lot	1		
6 (c)	Microwave oven	no.	1		
6 (d)	Air cooler	no.	2		
6 (e)	Heaters/ blowers	no.	2		
6 (f)	Refrigerator 280-300 Litre	No.	1		
6 (g)	29" Colour TV with dish antenna	No.	1		
7	Guest House at HERAT, Afghanistan				
7 (a)	Maintaining 2 room house/ flat as guest house accommodation with caretaker (For other Liaoning works as well) at HERAT city Afghanistan for use of visiting BHEL officers/ staff in transit with proper boarding and lodging arrangements including providing vehicle for pick up/drop at airport & local use. (App usage shall be 7 days in a month)	months	24		
8	DG sets for Electric supply				
8 (a)	Rate/month for providing 1 no. DG set of 125 kVA capacity for	months	27		

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – V: Rate Schedule/BOQ

	construction power for power house, running of EOT crane, BHEL site office etc and other work areas near Power House incl. its running and maintenance				
8 (b)	Rate/month for providing 1 no. DG set of 25 kVA for stores area incl. its running and maintenance.	months	27		
8 (c)	Rate/month for providing 1 no. DG set of 25 kVA for switchyard area incl. its running and maintenance.	months	27		
9	Site vehicles				
9(a)	Rate in USD/ month for providing in phased manner as per requirement of BHEL air conditioned vehicle 5-seater with driver, running and maintenance (Pajero/ Paredo/ Surf or equivalent vehicle)	Vehicle Month	42		
10	Mobile crane for erection				
10(a)	Rate in USD/month for providing services of mobile crane 40 tonne capacity for erection of stayring & spiral casing. See note 4 below.	month	9		
				TOTAL	

Note:

1	The rates to be quoted in Column (5) shall be on Unit rates unless specified in Column (3)
2	In case of Price Discrepancy, GCC Cl. 1.4 shall be referred.
3	The quantities indicated against each item above are tentative and are liable to vary depending upon the site requirement. The contractor has to supply / install actual quantities as per advice of BHEL Engineer and accordingly the final contract

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – V: Rate Schedule/BOQ

	price shall be adjusted on the basis of quantities actually erected at site & payment will also be regulated for the same. The contractor confirms that unit rate quoted above takes care of such variations during execution stage.
4	While quoting for Item No. 10, bidders may quote competitive price keeping in mind that running expenses of mobile crane (Mainly fuel and operator) shall more or less be offset by similar expenses for EOT crane for which power from DG and operator are in the scope of the bidder only. This Mobile crane may be used for erection of stayring & spiral casing erection if EOT shall not be ready by that time. In case of EOT crane will be available for erection of stayring & spiral casing then quoted price against this item shall be deducted from the contract price.

(Seal and signature of Tenderer)

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Terms of Payment

6. Terms of Payment

6.1. Although, the bids have been invited in USD and shall be evaluated accordingly, PAYMENTS WILL BE MADE partly in USD IN AFGHANISTAN and partly in Indian rupees in India as mentioned hereunder.

-Sixty percent (60%) of the finally agreed price shall be paid in USD in Afghanistan.

-Forty percent (40%) of the finally agreed price shall be paid in Indian Rupees in India.

In case of foreign bidder, payments shall be made in USD only.

6.2. The 'Engineer' will certify regarding the actual work executed in the measurement books and bills, which shall be accepted by the contractor in measurement book.

6.3. Contractor shall submit bills for the work completed under the specification as per the **Billing Break Up** as per clause 6.5, Chapter-VI, part-I of TCC given below, once in a month detailing work done during the month. The format for billing shall be approved by BHEL before raising invoices.

6.4. Subject to any deduction which BHEL may be authorised to make under the contract, the contractor on the certificate of the Engineer at site be entitled for payment as explained hereunder

TERMS OF PAYMENT - SALMA DAM HEP AFGHANISTAN		
S. No.	BRIEF DESCRIPTION OF WORK	UNIT
1	2	3
1	E, T & C works	
1 (a)	Lumpsum price for erection, testing, commissioning, trial operations & handing over of Francis Turbines, Generators, Excitation systems and their auxiliaries etc of 3 x 14 MW HYDRO UNITS OF SALMADAM HEP as per the tender specifications.	On completion of activity based on billing break up (as per Clause 6.5 below) for contract value of E, T & C works.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Terms of Payment

2	Material handling	
2 (a)	Rate in USD/ Tonne for receipt, safe unloading (from trucks/trailors) with mobile crane in project store OR with EOT crane in power house and stacking on wooden/ concrete sleepers/ packings. Refer Clause 2.1 A (Chapter-II,Vol-IA,Part-I)	100% of unit rate based on tonnage safely unloaded, stacked, and Material Management forms duly filled/Records generated in stocks (Stock registers and computers) and certified by Engineer.
2 (b)	Rate in USD/ Tonne for loading of materials / equipments from project stores with mobile crane on truck/trailer and transportation to & unloading at power house or work site for erection with EOT crane or mobile crane/ alternate method.	100% of unit rate after safe receipt/unloading of material at PH/work site and based on tonnage handled.
2 (c)	Rate in USD/ Tonne for verification, proper storage, re-stacking and preservation of materials / equipments received including materials already received and unloaded by other contractor in project stores / power house	60% of unit rate on verification and preparation of verification and material descipency reports AND 40% of unit rate after re-stacking/packing and preservation on priority decided by Engineer.
2 (d)	Rate in USD/month for providing services of mobile crane 20 tonne capacity for material handling at project stores including its running and maintenance. (Refer scope of	100% of unit rate on monthly basis on certification by Engineer for deployment in proper condition.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Terms of Payment

	work clause 2.1 N, Chapter II, Part I, TCC)	
3	Office shed 16M x 10M x 3.5M - 1 No. -As per specifications in the main document & sketch Annexure III	100% of unit rates based upon major milestone completions decided with Engineer
3 (a) to 3 (s)	All office furnishing items	100% of unit rates in 2 or maximum 3 lots during and after supply of all items.
4	Storage - covered and open	
4 (a)	<u>Stores shed -40M x 12M - 1 Nos.</u> As per specifications in the main document	100% of unit rates based upon major milestone completions decided with Engineer
4 (b)	Open storage area of approx. 5,000 Sq.M.- iii) Fencing (App 275 running metre) of open store area with provision of 5 metre wide gate and security check post. (As per specifications in the main document). iv) 15 electric poles 4 metres above ground with fittings in store area for proper illumination	100% of unit rates based upon major milestone completions decided with Engineer
4 (c)	Construction of temporary covered sheds of steel and GS sheets over some of the sensitive packages (Like stator sectors etc...)	100% of unit rate for the sheds constructed.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Terms of Payment

5	Furnishing of Residential Camp: Providing following furnishings in each of the 4-room 3 no. bare quarters	
5 (a) to 5 (q)	All furnishing items	100% of unit rates in 2 or maximum 3 lots during and after supply of all items.
6	Providing mess facility in one of the quarters allotted for app 8- 10 persons with items listed below	
6 (a) to 6 (g)	Furniture, Crockery, cutlery, cooking utensils, gas stove with cooking gas connection, electric kettle, emergency light	100% of unit rates after completing supply all items.
7	Guest House at HERAT, Afghanistan	
7 (a)	Maintaining 2 room house/ flat as guest house accommodation with caretaker (For other liasoning works as well) at HERAT city Afghanistan for use of visiting BHEL officers/ staff in transit with proper boarding and lodging arrangements including providing vehicle for pick up/drop at airport & local use. (App usage shall be 7 days in a month)	100% of unit rates payable monthly.
8	DG set for Electric supply	
8 (a)	Rate/month for providing 1 no.	100% of unit rates payable monthly.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Terms of Payment

	DG set of 125 kVA capacity for construction power for power house, running of EOT crane, BHEL site office etc and other work areas near Power House incl. its running and maintenance	
8 (b)	Rate/month for providing 1 no. DG set of 25 kVA for stores area incl. its running and maintenance.	100% of unit rates payable monthly.
8 (c)	Rate/month for providing 1 no. DG set of 25 kVA for switchyard area incl. its running and maintenance.	100% of unit rates payable monthly.
9	Site vehicles	
9 (a)	Rate in USD/ month for providing in phased manner as per requirement of BHEL air conditioned vehicle 5-seater with driver, running and maintenance (Pajero/ Paredo/ Surf or equivalent vehicle)	100% of unit rate payable on monthly basis.
10	Mobile crane for erection	
10(a)	Rate in USD/month for providing services of mobile crane 40 tonne capacity for erection of stayring & spiral casing (if EOT shall not be ready by that time) including its running and maintenance.	100% of unit rate on monthly basis on certification by Engineer for deployment in proper condition.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Terms of Payment

Notes:

1. Further break-up and/or minor changes in Terms of Payment referred above, if required depending upon the site conditions, can be done at site entirely at the discretion of BHEL engineer.
2. Release of payment in each Running Bill will be restricted to 95% of the value of work admitted as per stages of progressive pro rata payments.
3. The 5% thus retained shall be treated as retention amount. Deduction & release of retention amount shall as per terms specified in the GCC 2.22.
4. Infrastructural works and facilities to be provided by the contractor as detailed in above paragraphs which are the property of the contractor, shall be required for the entire period of execution of works after which the contractor shall be free to dismantle and take these items from site. No separate payment of any type shall be payable for this and quoted prices shall take care of this.

6.5. Billing Break Up

SNO	ACTIVITY	UNIT				TOTAL (% of E,T&C contract value as in rate schedule item)
		I	II	III	COM	
A	TURBINE					
1	Alignment and positioning of D/T sections, Welding, NDT and handing over of draft tube for concreting U#1-Draft tubes, pier nose AND penstock & draft tube dewatering pipes, efficiency pipes with its protection coverings coming under 1st stage concrete are under erection and	0.10	0.10	1.00		1.20

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Terms of Payment

	therefore excluded from the scope of this present tender. However further works, cutting of bracings etc in the above DT knee linings and painting shall be carried out under the scope of the present tender.					
2	Installation of stay ring in place, Assembly & welding of spiral casing, NDT, Hydraulic testing of spiral casing, hand over for concreting	2.00	2.00	2.00		6.00
3	Runner/turbine shaft assy & lowering in pit	0.20	0.20	0.20		0.60
4	Trial and final assy of guide apparatus	1.80	1.80	1.80		5.40
5	Guide brg and shaft seal assy	0.60	0.60	0.60		1.80
6	Erection of OPU (Turb)., pressure accumulator, HMC, OLU and oil piping.	0.75	0.75	0.75		2.25
7	Erection of Grease Lubrication System	0.20	0.20	0.20		0.60
8	Assembly of MIV in service bay, install MIV on foundation, align.	1.00	1.00	1.00		3.00
9	Installation, welding of inlet/ outlet pipes of MIV incl NDT.	0.40	0.40	0.40		1.20
10	Installation of servomotor, bypass valve, oil & water pipe lines.	0.50	0.50	0.50		1.50
B	GENERATOR					
1	Assy of stator sectors and completion of balance winding including HV testing in service bay,	1.50	1.50	1.50		4.50
2	Dressing of stator foundation, Installation of assembled stator in pit, align, centre & level.	0.25	0.25	0.25		0.75
3	Assembly of rotor rim including pressing	1.25	1.25	1.25		3.75

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Terms of Payment

4	Balance assy of rotor ,poles, connections, CC leads, incl HV testing	1.50	1.50	1.50		4.50
5	Ern lower brkt, thrust brg, brake jacks	0.60	0.60	0.60		1.80
6	Lower assembled rotor in pit	0.20	0.20	0.20		0.60
7	Assy top brkt in service bay, its lowering in position, centre, level	0.50	0.50	0.50		1.50
C	UNIT ALIGNMENT & BOXING UP,					
1	Combined Unit Axis Alignment	0.80	0.80	0.80		2.40
2	Box up of turbine	1.00	1.00	1.00		3.00
3	Box up of generator	1.50	1.50	1.50		4.50
4	Painting of equipment	0.25	0.25	0.25	0.25	1.00
D	ELECTRICAL SYSTEMS					
1	Installation of 3 phase generator Transformers including its auxiliaries.	2.00	2.00	2.00		6.00
2	Creating vacuum and oil filtration/ filling in GT, pre commg, back charging	0.50	0.50	0.50		1.50
3	Installation of excitation, unit auxiliary & Station Transformers	0.50	0.50	0.50		1.50
4	Installation of SP Bus Duct, LAVT, NG cubicle.	2.00	2.00	2.00		6.00
5	Installation of static excitation, Generator Protection system, UCB	0.50	0.50	0.50		1.50
E	COMMON SYSTEMS					
1	Installation of EOT crane incl load testing in s/bay				1.00	1.00
2	Inst of rail, DSL beyond s/bay upto end	0.25	0.25	0.30		0.80
3	Installation of DG Sets incl commg				1.00	1.00
4	Erection of Unit HP compressed air system incl piping				0.75	0.75

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Terms of Payment

5	Erection of Unit LP compressed air system incl piping				0.75	0.75
6	Installation of Cooling water system incl piping	0.75	0.75	0.75		2.25
7	Installation of Drainage and Dewatering System incl piping				1.00	1.00
8	Generator Fire Fighting system (CO2)	0.50	0.50	0.50		1.50
9	Installation of PLCC, EPBAX, 48V battery system				1.00	1.00
10	Installation of 220 V Batteries, DC dist. Boards, chargers	0.10	0.10	0.10	0.30	0.60
11	Installation of 415 V LT S/gear for different areas				1.00	1.00
12	Installation of 20 KV metal clad S/gear for different areas				1.00	1.00
13	Inst. of Fire Fighting System for PH different floors, transformers, s/yard				1.00	1.00
14	Installation of cable trays, control and power cables for unit and station				2.00	2.00
15	Installation of illumination system,				0.75	0.75
16	Installation of Ventillation system				0.75	0.75
17	Installation of Passenger lift				0.75	0.75
18	Electrical Lab & Mechanical Workshop				0.40	0.40
19	Inst. & commg of Lubricating Oil handling/purifying system incl portable unit.				0.40	0.40
20	Inst. & commg of insulating Oil handling/purifying system incl portable unit.				0.40	0.40
21	Installation of SCADA, Control room panels, CCS				0.50	0.50

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Terms of Payment

F	110 KV SWITCH YARD					
1	Installation of foundation bolts, structures,				2.50	2.50
2	Installation of Circuit Breakers, CT, VT, Isolators, conductors, panels				1.30	1.30
3	Pre commg, commg & back charging				0.75	0.75
G	CABLING					
1	Installation of cable trays complete scope				0.50	0.50
2	Laying/terminations of all power, control, instrumentation, XLPE cables & any other cables.				1.00	1.00
H	UNIT SPINNING, TESTING, COMMISSIONING					
1	Testing of unit controls and auxiliary panels	1.00	1.00	1.00		3.00
2	Spinning of unit.	0.40	0.40	0.40		1.20
3	Synchronisation of unit.	0.60	0.60	0.60		1.80
				TOTAL		100.00

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: Taxes and Other Duties

7. Taxes and Other Duties

- 7.1. **TDS under income Tax, sales tax, VAT and surcharge or any other taxes etc, if any, as per Indian/ Afganistan Law, as applicable, shall be deducted** at the prevailing rate on gross invoice value from the running bills unless exemption certificate from appropriate Authority / Authorities is furnished.
- 7.2. **Bidders shall quote their Prices inclusive of all taxes and duties. No taxes/ duties or any other levy shall be paid/ reimbursed separately.**
- 7.3. Contractor shall get his organization registered with concerned statutory /local sales tax authorities as required (As per the requirement in Afghanistan), within 30 days of award of the contract as per requirements. The delay on this account and delay in bringing the material shall be to contractor's account and no extension of time shall be allowed on this account. The sales tax registration for this contract shall be forwarded to BHEL within 45 days from the date of LOI. In case the contractor is already registered for sales tax with Govt. Authorities, he must quote his registration no. While submitting the tender. The mobilization shall also treated as complete only after the contractor gets registered with the local authorities in Afghanistan.
- 7.4. Contractor has to make his own arrangement at his cost for completing the formalities (Including Work Permits/Road Permits), if required, with the concerned Authorities in Afghanistan, for bringing his materials, tools & plants, equipment at site for the execution of the work under this contract.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Facilities in the scope of Contractor/BHEL

8. Facilities in the scope of Contractor/BHEL

- 8.1. WAPCOS shall provide limited open space for site office and store free of rental charge. It is the responsibility of the contractor to construct temporary sheds for his use, and to dismantle and clear the site after completion of work or as and when required, as a part of his scope of work as per the instructions of BHEL Engineer.
- 8.2. BHEL/WAPCOS shall provide space for labour colony. Contractor shall have to build his own colony/ quarters for his workmen/ staff OR can take houses on rental basis in nearby places. Contractor shall be responsible for providing all necessary facilities to staff and workmen like construction of residential accommodation with electricity & water inside the rooms, proper sanitation, transport, medical facilities etc. at his own cost as required under various labour laws and statutory rules and regulations.
- 8.3. Contractor has to arrange their own DG sets, 1 no. of 125 kVA for Power House area, 1 no. each of 25 kVA for Store and switchyard area for execution of complete scope of work including construction power for power house, switchyard, other work sites, stores and BHEL office etc within the awarded rates, since power is not available at site.
- 8.4. The contractor shall have to arrange the water for construction purpose by himself for powerhouse within the awarded rates. Any further distribution will also be the responsibility of the Contractor as a part of his work.
- 8.5. Provision of distribution lines for electric power from the central points/DG sets to the required places of use (like power house & other construction sites, switchyard, BHEL office, stores, etc) with proper distribution boards observing the safety rules laid down by the electrical authorities of the state shall be done by the contractor, supplying all the materials like cables, distribution board, switch boards, TPN, CBS, ELCBS/ MCCBS/ Copper/ Brass clamps, copper conductor, change over switches pipes etc. at his own cost. If any failure is caused in supply of the power and water, it is the responsibility of the contractor to make alternate arrangements at his cost. The contractor shall adjust his working shifts / hours accordingly and deploy additional manpower if necessary so as to achieve the targets.
- 8.6. No compensation for idle labour or extension of time for completion of work will be given to contractor unless provided for elsewhere in the tender.
- 8.7. Adequate lighting arrangement such as flood lights, hand lamps and area lighting shall be arranged by the contractor at the site of his work areas within finally accepted rates.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Facilities in the scope of Contractor/BHEL

- 8.8. On completion of work or as and when required by BHEL, all the temporary buildings, structures, pipe lines, cables etc. shall be dismantled and levelled and debris shall be removed as per instruction of BHEL by the contractor at his cost. In the event of his failure to do so, the Engineer will get it done and expenses incurred shall be recovered from the contractor along with prevailing overheads. The decision of BHEL Engineer in this regard shall be final.

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL/ WAPCOS	Bidder	
1.1.0	ESTABLISHMENT			
1.1.1	FOR CONSTRUCTION PURPOSE:			
A	Open space for office	Yes		Free of rental charge
B	Open space for storage	Yes		Free of rental charge
C	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
D	Bidder's all office equipments, office / store / canteen consumables		Yes	
E	Canteen facilities for the bidder's staff, supervisors and engineers etc		Yes	
F	Fire fighting equipments like buckets, extinguishers etc		Yes	
G	Fencing of storage area, office, canteen etc of the bidder		Yes	
1.1.2	FOR LIVING PURPOSES OF THE BIDDER			
A	Open space	Yes		Free of rental charge
B	Living accommodation		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-VIII: Facilities in the scope of Contractor/BHEL

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL/ WAPCOS	Bidder	
1.2.0	ELECTRICITY			
1.2.1	<u>Electricity For construction purposes</u>		Yes	
1.2.1.1	Single point source at (i) Power house area (ii) Switchyard area (iii) Store area		Yes	To be arranged by DG sets
1.2.1.2	Further distribution for the work to be done which include supply of materials and execution		Yes	
1.2.1.3	Running and its maintenance		Yes	
1.2.2	Electricity for the office, stores, canteen etc of the bidder which include:		Yes	
1.2.2.1	Distribution from single point including supply of materials and service		Yes	
1.2.2.2	Supply, installation and connection of material of energy meter including operation and maintenance		Yes	
1.2.2.3	Duties and deposits including statutory clearances for the above		Yes	
1.2.2.4	Living facilities for office use including charges		Yes	
1.2.2.5	Demobilization of the facilities after completion of works		Yes	
1.2.3	Electricity for living accommodation of the bidder's staff, engineers, supervisors etc on the above lines		Yes	
1.3.0	WATER SUPPLY			
1.3.1	For construction purposes:			
1.3.1.1	Making the water available at single point		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-VIII: Facilities in the scope of Contractor/BHEL

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL/ WAPCOS	Bidder	
1.3.1.2	Further distribution as per the requirement of work including supply of materials and execution		Yes	
1.3.2	<u>Water supply for bidder's office, stores, canteen etc</u>		Yes	
1.3.2.1	Making the water available at single point	Yes		Free of cost
1.3.2.2	Further distribution as per the requirement of work including supply of materials and execution		Yes	
1.4.0	LIGHTING			
1.4.1	For construction work (supply of all the necessary materials) 1. At office storage area 2. At the preassembly area 3. At the construction site /area		Yes	
1.4.2	For construction work (execution of the lighting work/ arrangements) 1. At office storage area 2. At the preassembly area 3. At the construction site /area		Yes	
1.4.3	Providing the necessary consumables like bulbs, switches, etc during the course of construction		Yes	
1.4.4	Lighting for the living purposes of the bidder at the colony / quarters		Yes	
1.5.0	COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER			
1.5.1	Telephone, fax, internet, intranet, e-mail etc		Yes	
1.6.0	COMPRESSED AIR SUPPLY			

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-VIII: Facilities in the scope of Contractor/BHEL

Sl.No	Description PART I	Scope / to be taken care by		Remarks
		BHEL/ WAPCOS	Bidder	
1.6.1	Supply of Compressor and all other equipments required for compressor and compressed air system including pipes, valves, storage systems etc		Yes	
1.6.2	Installation of the above system and operation and maintenance of the same .		Yes	
1.6.3	Supply of the all the consumables for the above system during the contract period		Yes	

Sl.No	Description PART II ERECTION FACILITIES	Scope / to be taken care by		Remarks
		BHEL	Bidder	
2.1.0	Engineering works for construction:			
2.1.1	Providing the erection drawings for all the equipments covered under this scope	Yes		
2.1.2	Drawings for construction methods	Yes	Yes	In consultation with BHEL
2.1.3	As-built drawings – where ever deviations observed and executed and also based on the decisions taken at site- example – routing of small bore pipes	Yes	Yes	Details to be provided by the bidder & As Built drawing to be prepared by BHEL
2.1.4	Shipping lists etc for reference and planning the activities	Yes		

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-VIII: Facilities in the scope of Contractor/BHEL

SI.No	Description PART II ERECTION FACILITIES	Scope / to be taken care by		Remarks
		BHEL	Bidder	
2.1.5	Preparation of site erection schedules and other input requirements	Yes	Yes	In consultation with BHEL
2.1.6	Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments	Yes	Yes	To be jointly done on regular basis
2.1.7	Weekly erection schedules based on SI No 2.1.5		Yes	
2.1.8	Daily erection / work plan based on SI No 2.1.7		Yes	
2.1.9	Periodic visit of the senior official of the bidder to site to review the progress so that works are completed as per schedule. It is suggested this review by the senior official of the bidder should be done once in every two months.		Yes	
2.1.10	Preparation of preassembly bay		Yes	
2.1.11	Laying of racks for gantry crane if provided by BHEL or brought by the contractor/bidder himself	-	--	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-IX: T&Ps and MMEs to be deployed by Contractor

9. T&P and MMES to be deployed by the Contractor

9.1. Tentative List of Tools & Plants for Material Handling

Sl. No.	Item	Qty. (No.)
1	Mobile crane 20T	1 no.
3	1 no. DG set of 25 kVA	1 No. (for store)
4	Trailor 40 T	As per requirement
5	Truck 8/ 10T	1 no
6	Slings (10, 16, 25, 32, 40, 50 mm)	As per requirement
7	Pulling & Lifting machines 5T	2 no
8	Chain Pulley blocks(2T, 5T, 10T)	1 each
9	D-Shackles & Eye Bolt	Assorted upto 20T
10	Hydraulic Jacks (10, 20, 50 Tons)	2 each
11	Wire Ropes	As per requirement
12	Manila Ropes	As per requirement
13	Turn buckles & chain shackles	assorted
14	Set of Carpenter tools	1 set
15	Crow Bar (0.5, 1.0, 1.5 meter)	2 each
16	Set of preservatives	As per requirement
17	Torque Spanners / Wrenches	As per requirement
18	All general purpose T&P	As per requirement

Notes:

1. The above list specifies only major T & P (may not be complete) to be deployed by the contractor. All additional/ other tools and plants required for timely and satisfactory completion of works/ testing etc. shall also be deployed by the contractor with in the finally accepted rates/ prices.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX: T&Ps and MMEs to be deployed by Contractor

2. Other terms and conditions regarding above shall be as per the special condition of the contract clause no. 4.2.1 of SCC
3. Above list of T&P and IMTE to be deployed by Contractor at his own cost.

9.2. Indicative List of Tools and Plants for Erection

Sl. No.	Item	Qty. (No.)
1	Double end spanners upto 60mm	2 No. each
2	Ring spanners upto 60mm	2 No. each
3	Hammer 500 gm, 1 Kg, 2Kg, 4 Kg,8 Kg	2 No. each
4	Nylon/ Wooden Hammer	As required
5	Box spanner set upto 60 mm	1 No. each
6	Set of Slogging spanner upto 60 mm	1 No. each
7	Torque Wrenches upto 2000 NM	1 set
8	Impact Wrench (Pneumatic) upto 2400 NM	NOT REQUIRED
9	Chiesel 14mm, 22mm	1 No. each
10	Hacksaw 400 mm with blades	2 nos
11	Electrician Tool Kit	As required
12	Soldering iron (35/ 125 Watts)	As required
13	Plier 1", 1 1/2"	1No. Each
14	Screw driver set	1No. Each
15	Letter punch A-Z (10mm)	1 set
16	Number punch 0-9 (10mm)	1 set
17	Chain pulley block 1T, 3M	2 nos
18	Chain pulley block 5T, 3M	2 nos
19	Pull lift 5 T	2 nos
20	Turn Buckle (2 T, 5 T)	4 each
21	Mechanical Jacks (5, 10, 20, 35 T)	4 each
22	Hydraulic Jacks (5, 10, 20T)	4 each)
23	Gas cutting set (Acetyline Cylinder, Oxygen Cylinder cutting set with hose & regulator.	As required

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX: T&Ps and MMEs to be deployed by Contractor

24	Brazing torch set (With oxygen, acetylene cylinder)	As required
25	Compressed air spray painting Unit	1 No.
26	Air hose 16mm dia.	As required
27	Aluminium ladder 4 M length	2 nos
28	Welding generator (300/ 600 A) with cable & holder	As required
29	Air Arc Gouging Arrangement	1 no.
30	Electrode Oven	4 nos
31	Wire Brush	As required
32	Flat/ round/ triangular/ square/ needle file (assorted)	1 set
33	Oil stone / oil can	As required
34	Allen key set (MM/ BA/ Inch size - assorted)	1 set each
35	Crow bar (1.5M, 2.1M)	2 Each
36	Scissor	2 nos
37	Leather gloves / Rubber glouses/Cotton gloves	As required
38	Goggles green	As required
39	Mobile power boards	6 nos.
40	Set of carpentar tools	1 set
41	Plumb-with line dori	1 no.
42	MIG/ TIG Welding machine with accessories	As required
43	Angle grinder (AG7, AG9) machine	4 nos each
44	Sander (HS7)	4 nos
45	Straight grinder (GQ4, GQ 6)	4 nos
46	Pneumatic straight grinders (use upto 100 mm dia)	4 nos
47	Pneumatic Angle grinders (use upto 100 mm dia)	4 nos.
48	Flexible shaft grinder (FF2)	3 nos
49	Portable pneumatic drill machine (upto 40 mm)	1 set

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX: T&Ps and MMEs to be deployed by Contractor

50	Portable electric drill machine (upto 40 mm)	1 set
51	Fire fighting equipment for A,B,C class of fires	Adequate Qty
52	Hydraulic test pump (100 Kg/cm ²)with pressure gauge	1 no.
53	Pipe bending machine for pipe upto 50 mm	1 no
54	Bench Vice	2 nos
55	Pipe Vice	2 nos
56	Scraper (Flat/ triangular/ half round)	2 each
57	First Aid Box with medicine	2 sets
58	Centre punch	4 nos
59	Hole Punch (assorted size)	2 nos each size
60	Portable drilling Machine (Concrete upto 30 mm)	As required
61	Air Compressor	As required
62	1 no. DG set of 125 kVA	1 No. (for PH)
63	1 no. DG set of 25 kVA	1 No. (for switchyard)
64	Ultrasonic Testing Equipment with recording facility (For spiral weld joints and other testing)	As required

Notes:-

- 1) The above list specifies only major T & P (may not be complete in items or numbers) to be deployed by the contractor. All additional/ other tools and plants required for timely and satisfactory completion of works/ testing etc. shall also be deployed by the contractor with in the finally accepted rates/ prices.
- 2) Other terms and conditions regarding above shall be as per the special condition of the contract clause no. 4.2.1 of SCC.
- 3) Above LIST OF T&P AND IMTE to be deployed by Contractor at his own cost.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX: T&Ps and MMEs to be deployed by Contractor

9.3. List of T&P and IMTE for Transformer Erection/ Commissioning

Sl. No.	Item	Qty. (No.)
1	High vacuum filter machine	1
2	Vacuum pump for evacuation of transformer tank	1
3	Hydraulic Jacks 10 Tons	5
4	Wooden sleepers	10
5	Tarpauline for covering (3M x 6M)	20
6	Hand tools (spanners, screwdrivers, hammers etc)	2 sets
7	Slings, ropes, manila rope, D-shackles, spanners (upto 36 mm size) & other fitter / electrician hand tools.)	2 sets
8	Pully 3/5 tonnes	2 each
9	Chain Pulley blocks(3T, 5T)	2 each
10	Welding machine set.	1 set
11	Gas cutting set with gas & cutting set.	1 set
12	Winch 10 Tons capacity	1 no.
13	Multimeter	1 set
14	Megger Hand operated 500V / 1000V	2 set
15	Megger Motorised 2500v / 5000v	3 set
16	Transformer turn ratio meter	4 set
17	single phase variac 0-260 V, 8 Amps.	5 set
18	Oil BDV Test Kit 0-100 KV	6 set
19	Tong tester 0-30-60 Amps.	7 set

Notes:

- 1) The above list specifies only major T & P (may not be complete) to be deployed by the contractor. All additional/ other tools and plants required for timely and satisfactory completion of works/ testing etc. shall also be deployed by the contractor with in the finally accepted rates/ prices.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX: T&Ps and MMEs to be deployed by Contractor

- 2) Other terms and conditions regarding above shall be as per the special condition of the contract clause no. 4.2.1 of SCC.
- 3) The above list is indicative only. Actual requirement of the T&P and IMTE shall be arrived /agreed upon with BHEL Engineer at site.
- 4) Above LIST OF T&P AND IMTE to be deployed by Contractor at his own cost.

9.4. Indicative List of IMTE`S (Electrical)

Sl. No.	Item	Qty. (No.)
1	Analog multimeter voltage AC/DC 2.5-2500V Current, AC /DC-100mA to 10A, Resistance upto 200 Mohm	As per requirement
2	Digital Multimeter	As per requirement
3	Megger hand operated 500V / 1000V 200 Mohms	As per requirement
4	Megger motorized 2500V / 500V 2500 00 Mohms	As per requirement
5	Phase sequence indicator (110-450V)	As per requirement
6	Frequency meter 0-115-230-440 0-300-600A	As per requirement
7	Tong tester	As per requirement
8	Single phase variac 0-220 V, 8/15A	As per requirement
9	Three phase variac 0-415, 8/15A	As per requirement
10	Milli volt meter 600-60 mv D.C	As per requirement
11	Rheostat 0-250 ohms 2A, 0-8 Ohms 15A, 0-8 Ohms 15A, 0-26 Ohms 5A, 0-165 ohms 2 Amps	As per requirement
12	Hand tachometer(Digital) 0-15000 rpm	As per requirement
13	Function Generator - Input/ output 220V AC/ 30 V DC, 20 VA	
14	A.C. Voltmeter 0-75-150-300-600V	As per requirement
15	D.C. Voltmeter 0-75-150-700-600	As per requirement

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX: T&Ps and MMEs to be deployed by Contractor

16	A.C. Ammeter 0-5-10 Amps.	As per requirement
17	D.C. Ammeter 0-1-2.5-5 Amp.	As per requirement
18	Dual channel, double beam Oscilloscope 20 M HZ	As per requirement
19	Secondary injection Kit 0 to 5 Amp	As per requirement
20	Digital micro Ohm meter	As per requirement
21	A.C. H.V..Test Kit 0-50 KV, 400 KVA	As per requirement
22	Vibration Measurement equipment	As per requirement
23	Dead weight Testser for calibration of pressure gauge.	As per requirement
24	Wheatstonebridge.	As per requirement
25	Kelvin's double bridge	As per requirement
26	Partial discharge monitoring	As per requirement
27	U.V. Recorder	As per requirement
28	C.T.'s 50/100/200/500 by 5A	As per requirement
29	P.T's 3.3/6.6/11/13.8by 110 V	As per requirement
30	D.C. Shunt 2000A / 10 mV	As per requirement
31	Stop watch	As per requirement
32	Precision Thermometer	As per requirement
33	Sound level meter 150 db.	As per requirement
34	Temperature measurement system with RTD Measuring stator	As per requirement

Notes:

1. The above list specifies only major IMTE - Electrical (may not be complete) to be deployed by the contractor. All additional/ other IMTEs required for timely and satisfactory completion of works/ testing etc. shall also be deployed by the contractor with in the finally accepted rates/ prices.
2. Other terms and conditions regarding above shall be as per the special condition of the contract clause no. 4.2.1 of SCC
3. No T&P, IMTEs shall be arranged by BHEL.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX: T&Ps and MMEs to be deployed by Contractor

4. The above list is indicative only. Actual requirement of the IMTE shall be arrived/agreed upon with BHEL Engineer at site.

5. Above LIST OF T&P AND IMTE to be deployed by Contractor at his own cost.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-X: T&Ps and MMEs to be deployed by BHEL on sharing basis

10. T&P and MMEs to be deployed by BHEL on sharing basis

10.1. List of T&P to be provided by BHEL on Sharing Basis

Sl. No.	Item	Qty. (No.)
NIL		

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-XI: Any other requirement

11. Any other requirement

11.1. COMPLIANCE TO REGULATIONS AND BYELAWS

The governing laws to which the contract is to be subjected and according to which the Contract is to be constructed shall be the Laws for time being in force in India and Afghanistan. All national (or state) Legislation, statutes, ordinances & other laws, regulations & by Laws of any legally constituted public authority in Afghanistan shall be obeyed so far as the operation of the Contract in the country is concerned. However, all the litigation on the Contract shall be under jurisdiction of the court of Delhi

11.2. PRICE VARIATION

Prices shall remain firm throughout the contract period, including extended period, if any.

11.3. SECURITY DEPOSIT (SD)

- A. The contractor shall submit Security Deposit in USD within 15 days from the date of issue of LOI as per the General Conditions of Contract (GCC).
- B. In case the contractor opts to furnish Bank Guarantee as a part of Security Deposit, the BG shall be issued as per the Performa enclosed in this tender and also that the BG should be issued preferably through any of the Schedule Banks in India. The BG may also be accepted from a Foreign Bank at the sole discretion of BHEL, provided the BG is duly endorsed by any of the Indian Schedule Banks

Rev
00 6th
JULY

Part-II

TECHNICAL CONDITIONS OF CONTRACT (TCC)

(Document No PS:MSX:TCC)

BHARAT HEAVY ELECTRICALS LIMITED



TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - I: General

INDEX

SI No	Description	Chapter	Page no
Vol-IA	Part-II : Technical Specifications		
1	General	Chapter-I	2
2	Preliminary & Civil Works	Chapter-II	3
3	Materials Management at Stores & Power House	Chapter-III	7
4	Materials Handling and Storage & Transportation to Power House	Chapter-IV	12
5	Preservation of Components	Chapter-V	13
6	Cleaning of Equipments	Chapter-VI	14
7	Erection	Chapter-VII	15
8	Welding & NDT	Chapter-VIII	19
9	Testing, Pre-Commissioning, Commissioning & Post Commissioning	Chapter-IX	23
10	Finish Painting	Chapter-X	25
11	Any Other Requirement	Chapter-XI	26

1. General

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - I: General

BHEL has been awarded the work of design, manufacture, supply, installation, erection, testing & commissioning of 3x14 MW Salma Dam Hydro Power Project in Afghanistan. The equipment consists as per **LIST OF E&M PACKAGES** in Clause No. 2.1, TCC, Part-I along with mandatory and recommended spares.

From the above, general scope of works in this contract is material handling, execution of infrastructural civil works incl. construction of store, office etc. and Erection, Testing, Commissioning, trial operations & handing over of complete E&M packages comprising Francis Turbines, Generators, Excitation system, Generator Transformers, Bus Duct, Switchyard, BOPs etc. with their auxiliaries, for 3x14 MW Salma Dam Project, Afghanistan. Detailed scope of works are given in Clause 2.1, Part-I of TCC.

2. Preliminary & Civil Works

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Preliminary & Civil Works

- 2.1 The contractor shall as a first field activity check all the foundations for the correctness of the same as per the drawings and satisfy himself in all respects such as location of foundations, absence of voids, levels, correctness of bolt holes, pocket levels, centre lines etc. and all measurements should be recorded and submitted to engineer for approval before erection.
- 2.2 Before starting erection job, contractor shall ensure that area connected to his scope of work is sufficiently enclosed against ingress of dust and water and all debris have been cleared of from the floor to a designated area as per instruction of engineer. The contractor shall arrange to get the working area and surroundings cleared daily to ensure the dust free atmosphere for working and shall maintain sufficient labour for general cleaning of work areas. Delay of work on this account will not be acceptable.
- 2.3 The contractor shall cover all opening on floor and put temporary hand railing on all sides of the floor to avoid any accident to the working personnel.
- 2.4 Contractor shall fix up and maintain plates, supports for X & Y axis and elevation at different locations as required for each unit and **transfer the same from bench mark and XY axis given at one point by BHEL's client.** Joint protocol records for such benchmarks shall be got signed from BHEL's Engineer, customer's Supervisory and QA Engineer.
- 2.5 Once X-Y axis and elevation are fixed at different floors and protected, marking for other equipment's shall be transferred from these and joint protocol as above shall be got signed for each equipment or as required as per drawings.
- 2.6 All matching surfaces of components shall be well cleaned with cleaning agent and burrs shall be removed by filing and blue matched. Wherever necessary sealing/ lubricating/ anti-seize compounds shall be applied as per recommendation of Engineer. Machining/ grinding required for fitting of keys, pins, packers, dowels etc. shall be carried out by contractor.
- 2.7 The accuracy of all equipment/ instruments and their functioning shall be established before they are permitted for use on the job. If the Engineer doubts the accuracy of the precision tools, any time during erection, the contractor shall arrange the checking of tools/ equipment/ instruments at his cost.
- 2.8 All the works shall be performed to the lines, grades and elevations indicated on the drawings. The contractor shall be responsible to locate and layout the works. The horizontal & vertical control points established by the engineer shall be used as datum for the works under this contract. Any work done without being properly located may

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Preliminary & Civil Works

be removed and dismantled by the Engineer at the contractor's expenses if the contractor refuses to do it.

- 2.9 De-watering in general will be carried out by M/s WAPCOS. However contractor has to take care of general cleanliness in his area of work. For area cleaning within the premises of his work, the cleanliness shall be the total responsibility of contractor. Contractor within his scope of work shall keep the separate gang of workers for cleanliness operations. If the area under the scope is found unclean, BHEL can take measures on its own for cleaning and deduct the amount so spent from the running bills of contractor.
- 2.10 Necessary civil works shall be provided by BHEL client. The dimensions & locations shall be checked by the contractor for their correctness as per drawings. Further, top elevation and axis/ centre lines of all the foundations shall be checked with respect to benchmark etc. During the civil works, contractor shall check for all the block-outs, dimensions as required in their various mechanical drawings for installation of components/ assemblies and help BHEL wherever required for checking. All minor adjustments of foundation level, dressing and chipping of foundation surfaces up to about 25 mm, enlarging the pockets in foundations etc., and repair of same as may be required for the erection of equipment shall be carried out by the contractor within the finally accepted rates.
- 2.11 Besides above, any works required for safe and efficient operation of tools and tackles like grouting/ excavation/ casting of foundation/ anchor points for derricks, winches, guy ropes fastening scaffoldings etc. or any other temporary supports shall also be the contractor's responsibility. For these works all materials including cement/ steel and required facilities will have to be arranged by contractor at his own cost.
- 2.12 While on the job, care is essential to avoid too much chipping and resultant lowering of level. In case of excess chipping, contractor has to arrange additional packing plates as per requirements provided BHEL Engineer allows it. When required as per drawings/ manufacturing unit, the embedded sole plates shall be scraped and checked with Prussian blue to get the required contact with frames at no extra cost to BHEL.
- 2.13 The contractor shall ensure perfect matching of packer plates including scraping and blue matching with foundation by dressing the foundation, as well as perfect matching between the packer plates and the base plate of equipment to the satisfaction of BHEL Engineer.
- 2.14 The contractor shall provide his tool stores for special tools and instruments at a convenient place near to the working area.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Preliminary & Civil Works

- 2.15 All mechanical works of machine related to civil works including foundations, erection of chequered plates along with embedment in concrete including preparation of bolt holes will be in the scope of contractor.
- 2.16 BHEL/Customer shall provide the security arrangement at stores and powerhouse. However, necessary watch and ward shall be the responsibility of the contractor for the items and equipments under his custody.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – III: Materials Management at Stores & Power House

3. Materials Management at Stores & Power House

- 3.1 The scope of work mainly involves receipt, unloading of materials from road carriers (Trucks/Trailers etc) arrived at site for 3 units of 14 MW (namely Hydro-turbines, valves, generators, transformers, bus-duct, piping, auxiliaries equipment, C&I, BOP, switchyard and other miscellaneous materials/ equipment etc) and shifting from place of unloading/ stores, proper storing, stacking/ restacking of materials/ equipment (in closed store sheds/ open storage yards/ project site), verification of components including opening of cases, re-packing/ stacking and preservation of the same after verification including liaisoning with carrier for waiver/ reduction of demurrage, watch and ward, to provide firefighting equipment including fire extinguishers in closed and open storage yard wherever required. Also transportation of material to erection site/ work areas as and when required. The contractor is to use equipments arranged by him like suitable cranes/ trucks/ tractor-trailers and other material handling equipment including all necessary small/ major T&P required for the same for the above work.
- 3.2 The contractor shall maintain record of material such as receipts, issue and return in Day– Book, ledgers, stock registers and computers, issue gate passes, record of shortages & MDR etc as per BHEL procedures and instructions. The contractor shall also assist BHEL for all correspondence regarding the insurance including preparation of claims.
- 3.3 Tentative weight to be handled for 3 units is of the order of **1900 MT**. The dispatches are continuing since about a year and approximately 80-85 % materials have already reached at project store area which is located near WAPCOS colony in Chiste-e-Shrief and is about 8 KM from power house. The contractor shall have to unload all balance materials to be received and transport all materials to powerhouse/ place of work. But the contractor is required to handle whatever actual materials are dispatched for the project irrespective of variations in weight and sizes. Some equipment as per the direction of engineer may be unloaded in powerhouse with the help of EOT crane/Mobile Crane/Alternate method from the truck/ trailers depending upon the requirement. The bidders are required to take note of above points while quoting.
- 3.4 **Tentative Weight Schedule, Chapter-IV, Part-I** of TCC gives the general idea for bidder's information about the weights and dimensions of some major components/ equipment. The weights and dimensions shown are approximate and are liable to vary. No increase in quoted/ accepted rates/ prices should be allowed due to change in weights and dimensions of the equipment/ materials.
- 3.5 The contractor shall deploy adequate number of supervisors, storekeepers, riggers, sarongs carpenter, fitters and other skilled and unskilled workers as per requirement having adequate experience of jobs of similar nature till completion of work.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – III: Materials Management at Stores & Power House

- 3.6 Contractor shall provide all necessary preservatives, paints, thinners, rust preventives, grease, lubricants etc. for preservation of components. All tools and tackles and other consumables required for the contractor at his own cost shall also provide preservation of components including supervision. Preservation of components also includes applying preservatives, paints, rust preventives, greasing of threaded portions, repainting of work order Nos./ DU nos./component codes etc. After preservation wherever necessary, components will be stacked properly as per original stacking for which no additional payment shall be made.
- 3.7 It shall be the responsibility of the contractor to keep in touch with Engineer at site and find out arrival of road consignments. The Contractor shall collect all the lorry waybills from BHEL site office either personally or through an authorized representative. The contractor or his authorized representative shall, for the purpose, visit the said office every day and collect available LWB, PWB etc. While collecting the LWB, PWB contractor or his authorized representative will sign the register maintained for the purpose indicating the date and time of collection. The contractor shall keep in touch with carriers and arrange to effect delivery of consignments immediately on their receipts. Delay may cause deterioration of goods apart from attracting demurrage charges. Contractor shall also maintain a register indicating date of LWB, PWB date of collection of the materials from road transport agencies/ lorries and date of stacking them at storage yard of BHEL.
- 3.8 The contractor is required to find out and follow up regularly with carriers regarding arrival of consignments even prior to the receipt of GR, if any, and take delivery of the same on 'INDEMNITY BOND'. Indemnity bonds would be executed by BHEL when the Contractor furnishes intimation regarding arrival of consignment.
- 3.9 It is possible that in certain cases, LWBs, PWB may not be received in time but BHEL may receive Photostat copies of the same, it is, therefore, the responsibility of contractor to collect such Photostat copies while furnishing indemnity bond from BHEL authorities at site.
- 3.10 Payment of all demurrages/ wharfages that results due to contractor's faults would be the responsibility of contractor and to his account. If BHEL have to make payment of demurrage/ wharfage together with freight, the amount so paid as demurrage/ wharfage for the reasons stated above shall be paid by the contractor forthwith or would be recovered from bills of the contractor.
- 3.11 In any case contractor will pursue with concerned Carrier authorities at all level (local/ HQ etc) for waiver/ reduction to the minimum of such demurrage /wharfage charges.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – III: Materials Management at Stores & Power House

Whenever such demurrages/ wharfages become payable due to reasons not attributable to contractor, contractor will immediately bring it to the notice of BHEL with specific request to bear such charges. The decision of the Engineer in such case will be final and binding on the contractor.

- 3.12 The contractor has to ensure the unloading and removal of materials from unloading place within the permitted time and ensure to keep the area free and avoid jamming. Any loss to BHEL on this account shall be recovered from the contractor.
- 3.13 Any discrepancy/ shortage/ damage found in the consignment after taking delivery from the carriers after giving clear receipt would be the responsibility of the contractor and the amount liable to be lost by BHEL on such accounts is recoverable from the contractor.
- 3.14 In case of apparent damages/ shortages in consignments/ packing noticed by the contractor, such cases shall be brought to the notice of BHEL and cleared only with their consent/ approval. The contractor shall provide all the necessary assistance to BHEL for lodging the insurance claim and all correspondence with the insurer, surveyor and transport agency. The contractor shall also help in maintaining all the records in connection of insurance claims.
- 3.15 It would be responsibility of the contractor to examine the packages, consignments etc. on arrival and bring to the notice of carriers and BHEL authorities regarding loss/ damages, if any, observed in the consignments proposed to be taken delivery of.
- 3.16 Before taking delivery, particularly of consignments in 'smalls' the weight of the package shall be checked with the invoiced weight of the packages and any discrepancy shall be reported immediately to BHEL/ carriers. In all cases of loss/ damages the contractor will take open delivery from the carriers and forward such open delivery certificates (ODC) to the engineer within 7 days of receipt of such consignment. All expenses connected there with shall be to the account of contractor. BHEL reserves right to claim losses, if any, accrued to BHEL in the event of contractor non-compliance to above.
- 3.17 In case of short delivery and non-delivery, immediate notice of loss shall be filed with the carrier at places of dispatch and destination as also at any intermediate stations, if it is different one, under intimation to BHEL authorities at site.
- 3.18 BHEL reserves the right to recover from the contractor any loss which arises out of undue delay/ discrepancy/ shortage/ damages or any other cause during transit between the carriers godown/ weigh bridges and BHEL storage yard/ store sheds/

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – III: Materials Management at Stores & Power House

project site or during unloading at carrier godown/ storage yard/ store shed/ project site or during stacking or any time during the custody of contractor.

- 3.19 Unloading from lorries, transportation, unloading at storage area/ work site of heavy sophisticated equipment like stator, panels etc. shall be done in the presence of and as per the directions of BHEL representative, including stacking and re-stacking, if necessity arises.
- 3.20 Since the trucks/ trailers are expected to arrive during any time of the day/ night, the contractor shall have his workmen round the clock at site as well as other places as required to unload the materials.
- 3.21 Consignments coming on holidays are also required to be handled by the contractor promptly. It will be the responsibility of the contractor to contact the site engineer /his authorised representative of BHEL at their residence, if required, and obtain instructions to make suitable arrangements.
- 3.22 In the event of delay in unloading from the carrier at work site by the contractor, the detention charges, if any, will be to contractors account.
- 3.23 Under the scope of this contract, it shall be the responsibility of the contractor to provide all necessary facilities to open the packages in the presence of the engineer, verifying the contents of the packages, repackaging where ever and whenever necessary, properly stacking them as may be directed by the engineer so as to facilitate proper handling, periodical verification of material, receipt position, stock taking etc. For this, the contractor shall have experienced person at site who can maintain the records of dispatch/ receipt/ stacking/ verification/ shortages/ damage/ missing items etc. The verification of materials shall be carried out within 15 days and report shall be submitted as a documentary proof.
- 3.24 The material/ equipment requiring indoor storage will be stacked inside the storage shed by the contractor using suitable material handling equipments like cranes etc.
- 3.25 For checking/ verification of the components with packing slips/ LWB/ PWB etc. the contractor shall provide sufficient experienced persons and other facilities as and when required by the engineer.
- 3.26 Stacking of the material shall be done as per the instruction and to the satisfaction of engineer. The materials shall be so stacked that the same should facilitate easy handling. In the event of any improper stacking BHEL may ask the contractor to restock the material properly or failing which BHEL may get the job done by another agency at the risk and cost of the contractor.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – III: Materials Management at Stores & Power House

- 3.27 The contractor shall execute the work in the most substantial and workman like manner. The stores shall be handled with care and diligence. Any loss to BHEL due to contractor's lapse /negligence shall have to be made good by the contractor.
- 3.28 In case contractor is not able to unload, transport, stack the material at a pre-determined area, as per direction of the engineer for any reason whatsoever (including non-availability of crane, tractor, trailer and other T&P etc.) BHEL shall be at liberty to get the work done by engaging other agency/ equipment / T&P etc at the risk and cost of the contractor.
- 3.29 It shall be responsibility of the contractor to keep the storage areas (closed/ open) in neat and tidy conditions. Any vegetation like grass, bushes, sarkandas etc. shall be cut in open storage area and removed as per requirement and instruction of BHEL engineer within the contractual value. All surplus/ unusable packing materials shall be removed and deposited at location(s) specified by BHEL within the project premises (including weighing of the same within the project premises if required).
- 3.30 In case some materials are required to be dispatched from Site to Manufacturing Units, other sites or any other place, the contractor may be asked by the engineer to get the same packed, suitable for transport.
- 3.31 In case of consignment to be dispatched on full truck/ trailer load basis, where the carriers will place their fleet inside the plant for loading, the contractor may be asked to collect them from different locations of stores shed / yard and load by using his crane and labour.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – V: Preservation of Components

4. Materials Handling and Storage & Transportation to Power House

- 4.1 Contractor shall plan in consultation with BHEL engineer, plant/ material to be received/ delivered in powerhouse as per erection progress/ schedules and fill in the requisite formats in standard forms.
- 4.2 In case any equipment/ material is lost/ damaged while in the custody of the contractor, the cost of repair/ replacement if any to bring back the equipment in original order shall be deducted from the contractor's bill. BHEL's decision in this regard shall be final and binding on the contractor.
- 4.3 Contractor shall also ensure that lifting heavy equipment such as generator rotor, stator, Main Inlet Valve, shafts etc. shall be done strictly in accordance with drawing given for the purpose and using of lifting tackles supplied for the purpose. Wherever required rubber/ leather pads shall be given between the slings and the machined parts to avoid any damages, scratches to the machined surface. Contractor shall cover bearing journals with grease and cloth as per direction of engineer to avoid damages to the surface.
- 4.4 As per the erection requirement contractor shall deliver material to powerhouse/ work site. The maximum care has to be taken during that time of loading the material at storage area, transportation and unloading at powerhouse. No untoward damage should occur to the material at that time. Any loss of item/ damages shall be to the contractors account.
- 4.5 In addition to above, refer clause SCC 6 for complete scope under this chapter.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – V: Preservation of Components

5. Preservation of Components

- 5.1 Items stored outdoors shall be blocked up above the ground suitably.
- 5.2 Proper Stacking and Preservations of all the material, already received or yet to be received. Providing packing below the already received packages which are directly unloaded on the ground.
- 5.3 Refer clause SCC 6 for more details under this chapter.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI: Cleaning of Equipments

6. Cleaning of Equipments

- 6.1 The contractor shall thoroughly clean all the components before installation of the components whose surfaces are coated with protective coating and sent to site by suitable mechanical/ chemical means as per the approved procedure.
- 6.2 Contractor shall ensure that the items identified by BHEL shall be cleaned with kerosene/ petrol/ CRC before assembly and erection of the equipment. For cleaning purposes he shall use only soft cotton cloth. Contractor shall never use cotton waste for cleaning any equipment. The electrical equipment before erection shall be cleaned with dry air/ vacuum cleaner.
- 6.3 The contractor shall clean inside of all pipes and fittings from dirt, sand and loose scales, mechanically/ chemically and by air blowing before being erected. All pipe lines be thoroughly blown/ flushed. If necessary certain pipelines may have to be cleaned by acid pickling/ chemical cleaning. The procedure for the same shall be provided by BHEL. All chemicals and inhibitors shall be arranged by the contractor with in the scope of this contract. Disposal of chemical has to be carried out by the contractor at his own cost.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: Erection

7. Erection

- 7.1 All works such as cleaning, checking, leveling, blue matching, aligning, assembling, temporary erection for alignment dismantling of certain equipment for checking, cleaning, surface preparation, fabrication at site, cutting, grinding, straightening, chamfering, filing, chipping, drilling, reaming, dowelling, scrapping, machining, surface grinding, shaping, fitting up welding, tube expansion etc. as may be applicable in such erection works are to be treated as incidental to erection and necessary to complete the work satisfactorily & shall be carried out by the contractor as part of the work.
- 7.2 Any fixtures, scaffolding materials, approach ladder, concrete block supports, steel structures required for temporary supporting, pre-assembly or checking, welding, lifting and handling during pre-assembly and erection shall be arranged by contractor at his cost within the finally accepted rates.
- 7.3 No members of the ladder/ structure/ platform should be cut without specific approval of BHEL. In case it is necessary to cut, the contractor shall rectify/ repair in a manner acceptable to BHEL/ customer without any additional cost.
- 7.4 The contractor shall erect scaffolding/ temporary platforms for erection. These should be of adequate capacity and shall never be over loaded. These should be replaced when not found suitable during erection work and dismantled on work completion & removed from work site.
- 7.5 Corrections like straightening of ladders, tube support plates adjustment/ removal of ovalities in pipes and opening or closing the fabricated bends of piping to suit the layout shall be considered part of the work and the contractor is required to carry out such work within finally accepted price/ rate as per instructions of Engineer.
- 7.6 The contractor shall fabricate pipes, special bends, etc. threading and welding as required and carry out the chemical cleaning of fabricated piping.
- 7.7 The servicing and realignment of skid-mounted equipment if required or if directed by BHEL shall be carried out by the contractor at no extra cost to BHEL.
- 7.8 The contractor shall completely erect & test all the piping systems, covered in the specification including sampling lines up to and including sample coolers, hangers & supports, valves & accessories in accordance with the drawings furnished. This includes all necessary bolting, welding, pre-heating, stress relieving, testing, cleaning & painting. System shall be demonstrated in condition to operate continuously in a manner acceptable to the Engineer. Welding shall be used throughout for joining pipes except where flanged screwed or other type joints are specified or shown on the

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: Erection

- drawings. All piping shall be erected true to the lines & elevation as indicated in the drawings.
- 7.9 Pipes sent in standard length shall be cut to suit the site conditions and the layouts. Tubes or pipes wherever deemed to be convenient will be sent in running lengths with sufficient bends. Bends upto 80 mm NB may have to be fabricated at site.
- 7.10 The contractor shall ensure lowering of pipes in position with adequate precautions as to avoid any damage to either material or men. Only the anchoring points earmarked for the purpose of lowering the pipes are to be used.
- 7.11 Certain adjustments in length may be necessary while erecting pipelines. The contractor should remove the extra lengths/ add extra lengths to suit the final layout after preparing edges a fresh by adopting specified heat treatment procedures, at no extra cost.
- 7.12 It is possible that a few flanges may not be matching. The contractor shall be required to cut and re-weld the same as and when required without any additional cost.
- 7.13 The contractor shall be responsible for any modifications of shop fabricated pipes prior to installation to accommodate minor site alteration in pipe routing at no extra cost.
- 7.14 All vents and drains for piping equipment covered in the scope whether shown in the drawings or not shall terminate in atmosphere and to pit as directed by BHEL.
- 7.15 Wherever piping erected by the contractor is connected to equipment/ piping erected by the other agencies the joint at the connecting point shall be the responsibility of the contractor of this specification.
- 7.16 Normally the valves will have prepared edges for welding. But, if it becomes necessary, the contractor will prepare new edges or recondition the edges by grinding or chamfering to match the corresponding tubes and pipes. All fittings like 'T' pieces, weld neck flanges, reducers etc., shall be suitably matched with pipes for welding. The valves will have to be checked, cleaned or overhauled in full or in part before erection after chemical cleaning and during commissioning.
- 7.17 The contractor shall be responsible for correct orientation of all valves so that seats, stems & hand wheels will be in desired location. It is the responsibility of the contractor to obtain the information regarding orientation of valves not fully located on drawings before the same are installed.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: Erection

- 7.18 Suspension for piping, etc., will be supplied in running lengths, which shall be cut to suitable sizes and adjusted as required.
- 7.19 The adjustment of all supports erected for maintaining the proper slopes of piping wherever required is also included in the scope of the contractor.
- 7.20 No temporary supports should be welded on the piping. In case of absolute necessity, prior approval should be taken from BHEL Engineer.
- 7.21 All supports and anchors shall be installed as per drawing to obtain safe, reliable and complete pipe installation as per instructions of Engineer. Any additional support as called for by Engineer shall have to be fabricated and provided by the contractor. The raw materials required for fabricating such supports shall be arranged by BHEL.
- 7.22 Contractor shall install piping in such a way that no excessive or destructive expansion forces exist under any condition.
- 7.23 The contractor shall carry out the tightening of the field bolts on the equipment and piping covered under this specification by using either the calibrated torque wrench method or the turn of part method. The methods used, the tools and the equipment deployed shall be subject to the approval of Engineer. The bolting work shall be carried out by the competent technicians.
- 7.24 The contractor shall ensure that all supporting elements, anchors & restraint have been installed and adjusted in accordance with the drawings / sketches & other written instructions of the Engineer.
- 7.25 Layout of small bore piping as required shall be done as per site requirement. Necessary sketch for routing these lines should be got approved from BHEL by the contractor. There is a possibility of slight change in routing the above pipe lines even after completion of erection or from aesthetic point of view which should be carried out at no extra cost.
- 7.26 All the valves, including motorised valves, flap valves, etc. shall be serviced and lubricated to the satisfaction of Engineer before erecting the same and during pre-commissioning also. Welding or jointing of extension spindle for valves to suit the site conditions and operational facility shall be part of erection work within the quoted rates.
- 7.27 Additional platforms and ladders of permanent nature incidental to the job for approaching different equipment/ valves as per site requirement, which may not be

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: Erection

indicated in drawings, shall be fabricated and installed by the contractor. The materials required will be supplied by BHEL free of cost.

- 7.28 Erection and welding of necessary instrumentation tapping points, valves to be provided on equipment, auxiliaries and pipe lines covered within the scope of this specification, will also be the responsibility of the contractor and will be done as per the instructions of BHEL Engineer at no extra cost.
- 7.29 All the items will be supplied in pieces/ loose and are to be assembled bolted and welded at site. Contractor has to work as per the drawings and instruction issued at site for erection and testing purposes. Weights for handling and erection in **Tentative Weight Schedule, Chapter-IV, Part-I of TCC** are indicative only. **No claim will be entertained on account of variations in weights or change from conventional design e.g from bolted to welded connections and vice versa, increase in number of pieces etc. The bidders should take care of this point while quoting lumpsum price for subject works for handling and erection works.**

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Welding & NDT

8. Welding & NDT

- 8.1 The equipment and piping shall be erected in conformity with the provisions of standard/ specification and as may be directed by BHEL. The method of welding (arc, gas, TIG, MIG or other method) may be indicated in the detailed drawings/ schedules. BHEL Engineer will have the option of changing the method of welding as per site requirements.
- 8.2 Welding being a special process, all-welding shall be carried out by skilled and experienced welders holding valid certificates as per requirements of ISO 9002. The certificate shall be checked by BHEL before allowing the welders to be engaged on welding. BHEL at its own discretion may ask any or all welders to undergo welder Qualification Test as per Standard Procedure in accordance with requirements of ISO 9002 and as per welding manual of BHEL. **The deployment of qualified welder and subsequent site testing of requisite numbers of welders shall be one of the prerequisite of contractor's site mobilization completion.**
- 8.3 All welders including tack welder, structural and pipe welder shall be tested as per **ASME section IX** and approved by BHEL Engineer before they are actually engaged on work though they may possess the certificate. BHEL reserves the right to reject any welder if the welder's performance is not found to be satisfactory. The contractor in Performa given by BHEL Engineer shall maintain the records of qualification of welders. All the welders qualified for the work will be issued an identity card by BHEL Engineer and welder will keep the same with him at work place.
- 8.4 BHEL Engineer may stop any welder from the work if his performance is unsatisfactory for any technical reason or if there is a high percentage of rejection of joints welded by a particular welder which, in the opinion of the Engineer will adversely affect the quality of the welding though the welder has earlier passed the tests prescribed by Engineer. The welder's having passed qualification tests does not absolve contractor of contractual obligation to continuously check the welder's performance.
- 8.5 Faulty welds caused by the poor workmanship shall be cut and re-welded at the **contractor's expenses including cost of materials**. The Engineer prior to any repair being made shall approve the procedure for the repair of defective welds. NDT on completed field welds shall be conducted as per drawings or instructions of BHEL engineer.
- 8.6 The contractor shall carry out the root run welding of all piping, valves, instrumentation, tapping points etc. by TIG/ SMAW / MIG welding process. The contractor shall have to carry out full TIG welding of butt weld joints of tubes /pipes of lesser thickness if required. During the root runs of stainless steel joints, the contractor shall before and during welding have to purge the pipes with inert gas in case of stainless steel. All

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Welding & NDT

arrangements required for the above shall be the responsibility of the contractor at no additional cost.

- 8.7 All charges for testing of contractor's welders including consumables for welding / destructive and non destructive tests conducted by BHEL at site or at laboratory shall have to be borne by the contractor only. The test coupons raw material will be supplied by BHEL free of cost.
- 8.8 The regulators used on welding machines shall be calibrated before putting these into use for work. Periodic calibration for the same shall also be arranged by the Contractor at his cost.
- 8.9 Only **BHEL approved electrodes and filler wire** will be used. All electrodes shall be baked and dried in the electric electrode-drying oven to the required temperature for the period specified by the Engineer before these are used in erection work. All welders shall have electrodes drying portable oven at the work spot. The electrodes brought to the site will have valid manufacturing test certificate. The test certificate will have correlation with the lot No. /batch No given on electrode packets. No electrodes will be allowed to be used in the absence of above requirement. The thermostat and thermometer of electrode drying oven will be also calibrated and test certificate from Govt. approved / accredited test house traceable to National / International standards will be submitted to BHEL before putting the oven in use. Periodical calibration for the same shall also be arranged by the contractor within the finally accepted rates.
- 8.10 All butt / fillet welds shall be subject to Dye Penetration test/Ultrasonically test/MPI test as per drawing and document requirement and have to be carried out as per the instructions of the engineer within the quoted / finally accepted rates for this contract .
- 8.11 The contractor shall maintain a record in the form as prescribed by BHEL of all operations carried out on each weld and maintain a record indicating the number of welds, the names of welders who welded the same, date and time of start and completion, preheat temperature, rejection if any, percentage of rejection etc. and submit copies of the same to the BHEL Engineer as required. Interpretation of the BHEL Engineer regarding acceptability or other wise of the welds shall be final. All site welding joints shall be subject to acceptance by BHEL Engineer.
- 8.12 All welds shall be painted with anticorrosive red oxide paint once stress relieving works are over. Necessary consumables and scaffolding etc. Including paints shall be provided by contractor at his own cost.
- 8.13 The contractor shall carry out the edge preparation of weld joints at site in accordance with the details acceptable to BHEL. Wherever possible machining or automatic flame

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Welding & NDT

cutting will be allowed only wherever edge preparation otherwise is impractical. All slag's / burrs shall be removed from cuts and all the hand cuts shall be ground smooth to the satisfaction of engineer.

- 8.14 Pre-heating, NDT tests, post heating and stress relieving after welding of tubes, pipes, including attachment welding wherever necessary, are part of erection work and shall be carried out by the contractor in accordance with the instructions of Engineer. All equipment and consumables essential for carrying out the above process shall be arranged by contractor at his cost.
- 8.15 Contractor shall arrange all necessary stress relieving equipment with automatic recording devices. Also the contractor shall have to arrange for labour, heating elements, thermocouples, etc. insulating materials like asbestos cloth, ceramic beads, asbestos ropes etc. required for heat treatment/ stress relieving operations. Temperature shall be measured by thermocouple and recorded on a continuous printing type recorder. All the recorded graphs for heat treatment works shall be the property of BHEL. The contractor has to provide thermal chinks, temperature recorders, thermocouple attachment units, graphs sheets, etc. for checking within the finally accepted rates. All stress relieving equipment will be used after due calibration and submission of test certificate to BHEL. Periodic calibration from Govt. approved / accredited Test Houses traceable to National / International standards will also be arranged by the contractor for such equipment at his cost. The contractor shall obtain the signature of BHEL Engineer or his representative on the chart of the recorder after setting up the weld joints for heat treatment operation prior to the starting.
- 8.16 The contractor shall also be equipped for carrying out other NDT like DP/ MPI / UT etc. as required as per welding schedule/ drawings within the finally accepted price/ rates. Necessary help including surface preparation and scaffolding required for conducting all the test shall be rendered by contractor at his own cost.
- 8.17 The technical particulars, specification and other general details for NDT work shall be in accordance with ASME, ISO or as specified by Drawings and Manuals of BHEL / WAPCOS
- 8.18 The joint is to be marked with permanent mark A, B, C, etc. to identify the segments. For this a low stress stamp shall be used to stamp the pipe on the down stream side of the weld.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII: Welding & NDT

- 8.19 NDT test as called for in the FQP including LPI, MPI and HT will have to be carried out.
- 8.20 The contractor shall assist BHEL Engineer in preparing complete field welding schedule/procedure for all the field welding activities to be carried out in respect of piping and equipment erected by him involving high pressure welding at least 30 days prior to the scheduled start of erection work at site. Such schedules shall be strictly adhered to by the contractor.
- 8.21 The radiography may be required to be carried out at any time (day and night) to ensure the continuity of the progress. The contractor shall make all necessary arrangements including labour, supervisors/ Engineer required for the work as per directions of BHEL.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX: Testing, Pre-Commissioning, Commissioning & Post Commissioning

9. Testing, Pre-Commissioning, Commissioning & Post Commissioning

- 9.1 On completion of erection of equipment, the contractor shall get the equipment checked up by the Owner (M/s WAPCOS), BHEL and their deputed supervisors, specialists concerned with the particular item of work. The testing of various equipment will be carried under the supervision of BHEL/ WAPCOS with the assistance of the Contractor in the manner decided by and in the presence of the owner and other authorised supervisors concerned, and to their entire satisfaction. On completion of these preliminary checks by the equipment supplier, the contractor shall make the equipment ready for conducting the test. The contractor shall rectify all defects found during the checking / testing as directed by the BHEL/ /Owner to ensure satisfactory operation of the equipment.
- 9.2 The contractor shall carry out the required tests as instructed by BHEL using contractor's own consumables, labour and scaffoldings.
- 9.3 All the tests shall be repeated till all the equipment satisfy the requirement / obligation of BHEL at various stages. Contractor shall also carry out repair of all the welded joints (site and suppliers) failed during testing.
- 9.4 The scope of testing activities cover installation of all necessary temporary piping, supports, valves, blanking, pumps, tanks etc. and other accessories with access platforms valves, pressure gauges, electric cables, switches, cutting of some of existing valve, placing of rubber wedges in the valves etc., required for hydro test, chemical cleaning, or for any other tests as the case may be and will carry out above activities under this scope of work as per instructions of BHEL. The scope also covers the off site disposal of effluents.
- 9.5 For testing of spiral casing the necessary test pump, test cone, test cylinder, stud, nuts, rubber cord, clamping ring, copper washers, needle valve, pressure gauge and adopter shall be supplied by BHEL. Any other item which may be required additionally shall be arranged by contractor within his scope of work.
- 9.6 It shall be the responsibility of the contractor to provide various category of workers in sufficient numbers along with Supervisors including necessary consumables, T&Ps, IMTEs etc., and any other assistance required during testing of equipment and attending any problem in the equipment erected by the contractor till handing over. Association of BHEL's/ Client's staff during above period will not absolve contractor from above responsibilities.
- 9.7 It shall be specifically noted that the above employees of the contractor may have to work round the clock along with BHEL Engineers and hence overtime payment by the

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-IX: Testing, Pre-Commissioning, Commissioning & Post Commissioning

- contractor to his employees may be involved. The contractor's finally accepted rates/ price shall be inclusive of all these factors also.
- 9.8 In case, any rework is required because of contractor's faulty erection which is noticed during testing, the same has to be rectified by the contractor at his cost. If any equipment/ part is required to be inspected during testing, the contractor will dismantle /open up the equipment / part and reassemble / redo the work without any extra claim.
- 9.9 During testing, opening/ closing of valves, changing of gaskets, realignment of rotating and other equipment, attending to leakage and adjustments of erected equipment may arise. The finally accepted price shall also include all such work.
- 9.10 The contractor shall make all necessary arrangements including making of temporary closures on piping/ equipment for carrying out the Hydro Test on all piping equipment covered in the specification at no additional cost.
- 9.11 In case any defect is noticed during tests such as loose components, undue noise or vibration, strain on connected equipment etc., the contractor shall immediately attend to these defects and take necessary corrective measures. If any readjustment and realignment are necessary, the same shall be done as per Engineer's instructions including repair, rectification and replacement work by the contractor at his cost. The parts to be replaced shall be provided by BHEL.
- 9.12 The contractor shall carry out cleaning and servicing of valves prior to testing of the equipment under his scope. A system for recording of such servicing operations shall be developed and maintained in a manner acceptable to BHEL Engineer to ensure that no valves are left un-serviced. Wherever necessary as required by BHEL Engineer, the contractor shall arrange to lap / grind valve seats.
- 9.13 Cleaning & servicing of all the filters/ strainers coming in the system shall be done by the contractor within the accepted price.
- 9.14 At the time of each inspection, the contractor shall take note of the decisions / changes proposed by the Engineer and incorporate the same at no extra cost.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-X: Finish Painting

10. Finish Painting

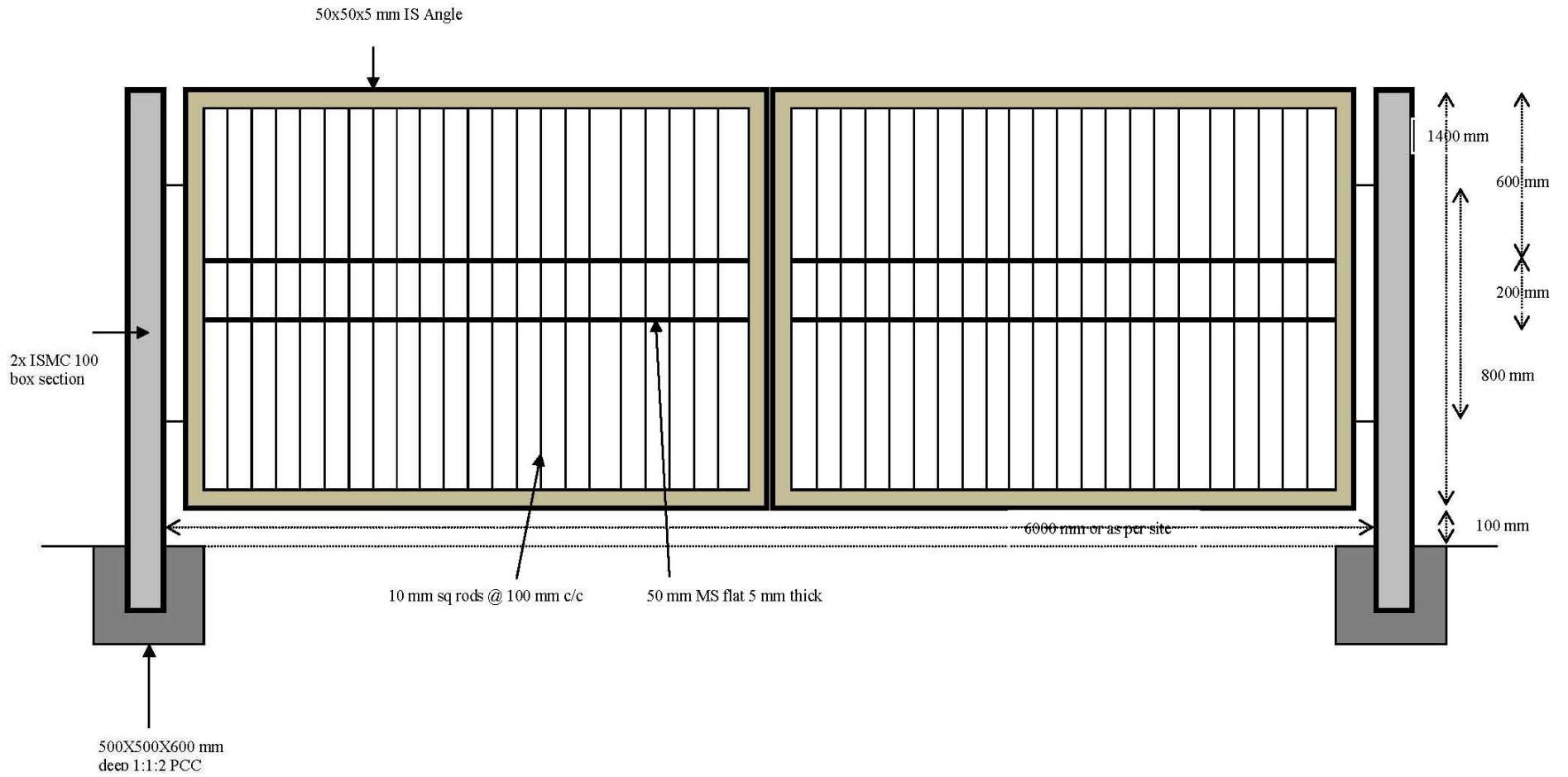
- 10.1 Primer painting wherever peeled off or damaged or if required is to be carried out after thoroughly cleaning of all dirt, rust, scales, grease, oils and other foreign materials by wire brushing, scrapping, any other method as per requirement of BHEL and the same being inspected and approved by the engineer before painting. Bare surfaces / unpainted surfaces shall be provided with two coats of suitable primer. The gas cut stubs / weld seams would require be cleaning / grinding before painting. After applying the primer paints all the equipments / items shall be finished with two coats of enamel paint or any other paint as issued by BHEL. The exterior surface may have to be cement / coal tar painted as directed by BHEL.
- 10.2 As the equipment/ items are to be spray painted, the contractor shall make arrangements of the required equipment for spray painting. Spray painting at the job/ site shall be permitted only for items approved by the owner / Engineer.
- 10.3 While the primers and paints will be issued by BHEL as free issue item, all tools and other consumables including scaffolding materials required for finish painting shall be supplied by contractor within their quoted rate.
- 10.4 As per BHEL contract with customer, painting has to be guaranteed for a period of 5 years from taking over by customer.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter-XI: Any other requirement

11. Any other requirement

Not Applicable

MS GATE DETAILS



NOTE: All anchors, hooks, bolts, slider bolts, locking arrangement, guides, etc although not specifically shown in the drawing but shall be provided by the contractor as per standard practice and directions of Engineer I/C

TENDER - SPECIFICATIONS

VOLUME- IB (SCC)



Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301(INDIA)

Rev 00
6th JULY
2010

SPECIAL CONDITIONS OF CONTRACT (SCC)

(Document No PS:MSX:SCC)

BHARAT HEAVY ELECTRICALS LIMITED



SPECIAL CONDITIONS OF CONTRACT (SCC)

Contents

SN	DESCRIPTION	Chapter	No. OF PAGES
1	General Intent of the Specifications	Chapter-I	
2	General Services to be rendered by the Bidder	Chapter-II	
3	General Technical Requirements (Codes and Standards)	Chapter-III	
4	Obligations of Contractor (In respect of Tools, Tackles, Consumables, etc employment of supervisory staff and workmen)	Chapter-IV	
5	Responsibilities of Contractor (In respect of employment of Labour, Supervisory staff, etc)	Chapter-V	
6	Material Handling, Storage, Preservation, etc	Chapter-VI	
7	Drawings and Documents	Chapter-VII	
8	Inspection and Quality	Chapter-VIII	
9	HSE & OHSAS Obligations	Chapter-IX	
10	RA Bill Payment	Chapter-XI	
11	Performance Monitoring	Chapter-XII	
12	Suspension of Business Dealings	Chapter-XII	

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - I : General Intent of Specifications

1.0	INTENT OF THE SPECIFICATION
1.1	The intent of this erection specification is to provide services for execution of the project according to most modern and proven techniques and codes. The omission of specific reference to any method, equipment or material necessary for the proper and efficient services towards installation of the plant shall not relieve the contractor of the responsibility of providing such services / facilities to complete the work or portion of work awarded to him. The quoted / accepted rates / price shall deem to be inclusive of all such contingencies.
1.2	The work shall conform to dimensions and tolerances given in various drawings and documents that will be provided during erection. If any portion of works is found to be defective in workmanship and not conforming to drawings / documents or other stipulations, the contractor shall dismantle and re-do the work duly replacing the defective materials at their own cost, failing which recoveries, as determined by BHEL, shall be effected from contractor's bills.
1.3	It is not the intent of this specification to specify herein all the details of erection and commissioning. However, the system shall conform in all respects to high standards of quality and workmanship for performing the required duties in a manner acceptable to purchaser who will interpret the meaning of drawings and specifications and shall be entitled to reject any work or material, which in his judgments is not in full accordance herewith.
1.4	The omission of specific reference to any fabrication / erection or other method, equipment or material necessary for proper and efficient working of the plant shall not relieve the tenderer of the responsibility of providing such facilities to complete the work at quoted rates. Any mismatch/ defect found due to mistake in fabrication / erection shall have to be rectified by the vendor free of cost. Inspection by BHEL/Customer does not relieve vendor of his responsibility of executing quality erection.
1.5	The work covered under this specification is of highly sophisticated nature, requiring the best quality workmanship, supervision, engineering and construction management. The contractor should ensure proper planning and successful and timely completion of the work to meet the overall project schedule. The contractor must deploy adequate quantity of tools & plants, modern / latest construction aids etc. He must also deploy adequate trained, qualified and experienced supervisory staff and skilled personnel.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - I : General Intent of Specifications

1.6	Contractor shall erect and commission all the equipments and auxiliaries as per the sequence & methodology prescribed by BHEL depending upon the technical requirements. Availability of materials and fronts will decide this. BHEL Engineer's decision regarding correctness of the work and method of working shall be final and binding on the contractor. No claims for extra payment from the contractor will be entertained on the ground of deviation from the methods / sequence adopted in erection of similar sets elsewhere.
1.7	Following shall be the minimum responsibility of contractor and have to be provided within finally accepted rates / prices:
1.7.1	Provision as required of all types of labour, supervisors, engineers, watch and ward, tools & tackles, calibrated IMTEs (Inspection, measuring and testing equipment) as specified and otherwise required for the work, consumables for erection, testing and commissioning including material handling
1.7.2	Achieving Proper out-turn / Turn-over as per BHEL plan and commitment.
1.7.3	Completion of work as per BHEL Schedule
1.7.4	Good quality and accurate workmanship for proper performance of the equipment
1.7.5	Repair and rectification
1.7.6	Preservation / Re-conservation of all components during storage / erection / commissioning till handing over.

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter - II : General Services to be rendered by the Bidder

2.0	GENERAL SERVICES TO BE RENDERED BY THE BIDDER
2.1	Services for construction, fabrication, equipment erection testing as well as trial run & commissioning of various equipment and accessories under the contract shall include but not be limited to the following:
2.2	Issuing materials from store/open yard from time to time for erection as per the construction programme. The Contractor shall be the custodian of all the materials issued till the plant/equipment is officially taken over by the owner / BHEL after complete erection any successful trial run & commissioning.
2.3	Transport of material to their respective places of erection and erection of the complete plant & equipment as supplied under this specification.
2.4	Trial run and commissioning of individual equipment / sub-systems to the satisfaction of Owner/BHEL.
2.5	Deployment of all skilled and unskilled manpower required for erection, supervision of erection, watch & ward, commissioning and other services to be rendered under this specification.
2.6	Deployment of all erection tools & tackle, construction machinery, transportation vehicles and all other implements in adequate number and size, appropriate for the erection work to be handled under scope of this specification except otherwise specified.
2.7	Supply of all consumables, eg welding electrodes, cleaning agents, diesel oil, lubricant etc as well as materials required for temporary supports, scaffolding etc as necessary for such erection work, unless specified other wise.
2.8	Providing support services for the contractor's erection staff eg construction of site offices, temporary stores, residential accommodation and transport to work site for erection personnel, watch and ward for security and safety of the materials under the Contractor's custody etc. as required.
2.9	Maintaining proper documentation of all the site activities undertaken by the Contractor as per the proforma mutually agreed with BHEL, Submission of monthly progress reports and any such document as and when desired by BHEL/owner, taking approval of all statutory authorities, as applicable for respective portions of work fall under the jurisdiction of such statutes of laws.
2.10	Any other service, although not specifically called for but required for a contract of the size and nature indicated in the specification.

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter - III : General Technical Requirements (Codes and Standards)

3.0	GENERAL TECHNICAL REQUIREMENTS (CODES AND STANDARDS)
3.1	Except where otherwise specified, the plant/equipment shall comply with the appropriate Indian Standard or an agreed internationally accepted Standard Specification as mentioned elsewhere in contract specifications, each incorporating the latest revisions at the time of tendering. Where no internationally accepted standard is applicable, the Bidder shall give all particulars and details as necessary, to enable BHEL to identify all of the plant/equipment in the same detail as would be possible had there been a Standard Specification.
3.2	Where the Bidder proposes alternative codes or standards he shall include in his tender one copy (in English) of each Standard Specification to which materials offered shall comply. In such case, the adopted alternative standard shall be equivalent or superior to the standards mentioned in the specification.
3.3	In the event of any conflict between the codes and standards referred above, and the requirements of this specification, the requirements which are more stringent shall govern.
3.4	Tools used during erection and commissioning shall not be accepted except with the specific approval of the Engineer.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

4.0	OBLIGATIONS OF CONTRACTOR
4.1	CONSUMABLES & OTHER ITEMS
4.1.1	The contractor shall provide within finally accepted price / rates, all consumables (excepting those indicated in BHEL scope) like welding electrodes (including alloy steel and stainless steel), filler wires, TIG filler wires (over & above as supplied by the unit along with the plant materials, which will be given free of cost to bidder), gases (inert, welding, cutting), soldering material, dye penetrants, radiography films, etc. Other erection consumables such as tapes, jointing compound, grease, mobile oil, M-seal, Araldite, petrol, CTC / other cleaning agents, grinding and cutting wheels are to be provided by the contractor. Steel, packers, shims, wooden planks, scaffolding materials hardware items etc required for temporary works such as supports, scaffoldings are to be arranged by the contractor. Sealing compounds, gaskets, gland packing, wooden/concrete sleepers, for temporary work, required for completion of work except those which are specifically supplied by manufacturing unit are also to be arranged by the contractor.
4.1.2	All the shims, gaskets and packing, which go finally as part of plant equipment, shall be supplied by BHEL free of cost.
4.1.3	It shall be the responsibility of the contractor to plan the activities and store sufficient quantity of consumables. Non-availability of any consumable materials or equivalent suggested by BHEL cannot be considered as reason for not attaining the required progress or for additional claim.
4.1.4	NOT APPLICABLE
4.1.5	It shall be the responsibility of the contractor to obtain prior approval of BHEL, regarding suppliers, type of electrodes etc before procurement of welding electrodes. On receipt of electrodes at site these shall be subjected to inspection and approval by BHEL. The contractor shall inform BHEL details regarding type of electrodes, batch number, date of expiry etc and produce test certificate for each lot / batch with correlation of batch / lot number with respective test certificate. No electrode without a valid test certificate will to be used.
4.1.6	BHEL reserves the right to reject the use of any consumable including electrodes, gases, lubricants / special consumables if it is not found to be of the required standard / make / purity or when shelf life has expired. Contractor shall ensure display of shelf life on consumable wherever required and records maintained.
4.1.7	Storage of all consumables including welding electrodes shall be done as per requirement / instruction of the Engineer by the contractor at his cost.
4.1.8	In case of improper arrangement for procurement of any consumable, BHEL

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

	reserves the right to procure the same from any source and recover the cost from the Contractor's first subsequent bill at market value plus the departmental charges of BHEL from time to time. Postponement of such recovery is normally not permitted. The decision of Engineer in this regard shall be final and binding on the Contractor.
4.1.9	All lubricants and chemicals required for pre-commissioning, commissioning, testing, preservation and lubricants for trial runs of the equipment shall be supplied by BHEL / BHEL's client. All services including labour and T&P will be provided by the contractor for handling, filling, emptying, refilling etc. The consumption of lubricants / chemicals shall be properly accounted for. Surplus material if any shall be properly stacked/tagged and returned to BHEL/ CUSTOMER stores at no extra cost to BHEL. BHEL reserves the right to recover costs for wastage by the contractor.
4.1.10	Transportation of oil drums, from stores, filling of oil for flushing, first filling, subsequent changeover if any, topping/making up till the unit is fully commissioned and handed over to customer is included in scope of this contract. The contractor shall have to return all the empty drums to BHEL / BHEL's client store at no extra cost. Any loss / damage to above drums shall be to contractor's account.
4.1.11	All charges on account of taxes , duties ,any charges etc & other duties on materials obtained from any source for carrying out the works in the scope of the contractor shall be borne by the contractor.
4.2	TOOLS AND PLANTS / MEASURING AND MONITORING EQUIPMENT (MMEs)
4.2.1	T&Ps and MMEs to be provided by Contractor
4.2.1.1	All T&Ps and MMEs excepting those specifically indicated in BHEL scope are to be provided by the Contractor. Contractor has to make his own arrangement at his cost for completing the formalities (including arrangement of Road permits, if any) if required with Sales Tax/VAT authorities, for bringing their materials, plants and equipments at site for the execution of work under this contract.
4.2.1.2	All suitable cranes, lifting and transport equipments for material handling at stores/yard/siding of BHEL/Customer are included in scope. BHEL's cranes will not be available for this purpose unless otherwise specifically permitted as per contract conditions
4.2.1.3	All T&Ps to be deployed by the contractor shall have the approval of BHEL Engineer with regard to brand, quality and specification.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

4.2.1.4	Indicative list of Major T&Ps in the scope of Contractor are given in the Technical Conditions of Contract. Bidders to note that these are only indicative and as such all other T&P necessary for timely and satisfactory completion of work in scope shall be mobilized by Contractor
4.2.1.5	Timely deployment of adequate T&Ps is the responsibility of the contractor. The contractor shall be prepared to augment the T&P at short notice to match the planned programme and to achieve the milestones.
4.2.1.6	Contractor shall maintain and operate his tools and plants in such a way that major breakdowns are avoided. In the event of major breakdown, contractor shall make alternative arrangements expeditiously so that the progress of work is not hampered.
4.2.1.7	In the event of contractor failing to arrange the required tools, plants, machinery, equipment, material or non-availability of the same owing to breakdown, BHEL will make alternative arrangement at the risk and cost of the contractor. Decision of BHEL shall be final and binding on the contractor
4.2.1.8	The T&P to be arranged by the contractor shall be in proper working condition and their operation shall not lead to unsafe condition. The movements of cranes, and other equipment should be such that no damage / breakage occurs to foundations, other equipments, material, property and men. All arrangements for the movement of the T&P etc shall be the contractor's responsibility.
4.2.1.9	Use of welding generators/ rectifiers only shall be permitted for welding. Use of welding transformers will be subject to specific approval of BHEL engineer.
4.2.1.10	The contractor at his cost shall carry out periodical testing of his construction equipments. Test certificates shall be furnished to BHEL.
4.2.1.11	Contractor shall ensure deployment of serviced and healthy T&Ps including cranes, lifting tackles, wire ropes, manila ropes, winches and slings etc. History card and maintenance records for major T&Ps will be maintained by the contractor and will be made available to BHEL Engineer for inspection as and when required. Fitness certificate / Test Certificates of T&P shall have to be submitted before it is put in use. Identification for such T&Ps will be done as per BHEL Engineer's advice. BHEL reserves the right to permit only new slings up to 20 mm and lifting tackles up to 3 MT capacities.
4.2.1.12	Contractor shall ensure deployment of reliable and calibrated MMEs (Inspection measuring and Monitoring equipment). The MMEs shall have test / calibration certificates from authorized / Government approved / accredited agencies traceable to National / International standards. Each MME shall have a label indicating calibration status i.e. date of calibration, calibration agency and due date

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

	for calibration. A list of such instruments deployed by contractor at site with its calibration status is to be submitted to BHEL Engineer for control.
4.2.1.13	Re-testing / re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer within the contract price. The contractor will also have alternate arrangements for such MME so that work does not suffer when the particular instrument is sent for calibration. If any MMEs not found fit for use, BHEL shall have the right to stop the use of such item. It will be necessary for the contractor to deploy proper item. Any readings taken by the defective instrument will be recalled and repeat the readings taken by that instrument with a proper one. In case he fails to do so, BHEL may deploy MMEs and retake the readings at contractor's cost.
4.2.1.14	BHEL shall have lien on all T&P, MMEs and other equipment of the contractor brought to the site for the purpose of erection, testing and commissioning. BHEL shall continue to hold the lien on all such items throughout the period of contract / extended period. The contractor and / or his sub-contractors, without the prior written approval of the Engineer, shall remove no material brought to the site.
4.2.1.15	The month wise T&P deployment plan to execute the work is to be submitted as per relevant format as per the instruction of BHEL. It shall be the contractor's responsibility to deploy the required T&P, for timely and successful completion of the job, to any extent.
4.2.2	Obligations in respect of T&Ps and MMEs provided by BHEL
4.2.2.1	T&P / MMEs being provided by BHEL to sub-contractor free of hire charges shall be shared by other subcontractors working for BHEL at site and the allotment done by BHEL Engineer shall be final and binding.
4.2.2.2	BHEL T&P will be issued in basic assembled condition. Additional loose components / sub-assemblies / attachments as and when necessary, will be issued by BHEL. Assembly of such additional loose components/sub-assemblies/ attachments is in contractor's scope.
4.2.2.3	In case of non-availability of the T&Ps to be provided by BHEL due to breakdown, major overhauls, distribution pattern or any other reason, the contractor shall plan / amend / alter his activities to meet erection / commissioning targets in consultation with BHEL.
4.2.2.4	void
4.2.2.5	The contractor shall engage trained and experienced operators for the operation of BHEL's T&Ps. Their skill / performance will be checked by BHEL Engineer before

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

	they are allowed to operate the same. However checking of skills by BHEL does not absolve the contractor of his responsibilities for proper and safe handling of equipment, consistent good performance of operators and regular performance evaluation of operators.
4.2.2.6	<p>The day to day operation and maintenance of BHEL's T&Ps (Other than cranes) shall be carried out by contractor as per manufacturer's / BHEL's maintenance schedule at his cost. The contractor shall arrange, at his own cost, trained operators, fuel and other consumables for their operation. BHEL shall arrange all spares needed for upkeep of major T&Ps provided like Huck Bolting Machine*, DG Set, Induction Machine and Hydraulic Test pumps. The contractor has to arrange for fixing of the spares; supervision in specialized cases will be provided by BHEL. For upkeep of all other T&Ps supplied by BHEL, spares shall be arranged by the Contractor. BHEL supplied T&Ps shall be maintained in good working condition during the entire period of use. T&Ps in defective / damaged condition shall be rectified promptly to the full satisfaction of BHEL engineer. Contractor shall maintain records for maintenance of major T&Ps. These shall be made available for Inspection whenever required. In case of any lapses on the part of the contractor, BHEL at its own discretion shall get the servicing / repair of equipment done at the risk and cost of the contractor along with BHEL overheads. Further, if there are breakdowns / damages due to negligence of the contractor, the complete service / repair charges and cost of all the spares damaged with BHEL overheads shall be recovered from contractor's RA bills.</p> <p>*: for operation and maintenance of ESP Huck bolting machine, BHEL shall provide the basic power rig and hose. Balance toolings ie Guns, chuck jaws etc are to be arranged by contractor.</p>
4.2.2.7	void
4.2.2.8	Increasing / shortening of the crane boom to suit work requirements shall have to be arranged by the indenting contractor at his cost including restoration to a state as directed by BHEL. All necessary manpower tools, support, consumables, illumination etc. will have to be arranged by contractor at his cost. If required, contractor has to return the crane with original boom.
4.2.2.9	The area and infrastructure development of the area to be carried out by the customer. However in construction projects of this magnitude it is possible that all the areas / approaches may not be ready. In such cases backfilling of approaches where ever necessary, consolidation of ground and arrangement of sleepers / sand bag filling etc for safe operation / movement of equipment including cranes /

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

	trailers etc shall be the responsibility of the contractor at his cost. No compensation on this account shall be payable.
4.2.2.10	In the event of contractor not using and maintaining BHEL T&Ps according to BHEL's instructions. BHEL will have the right to withdraw such item without any notice and no claim in this regard shall be entertained and contractor shall be responsible for delay in execution on this account.
4.2.2.11	The contractor shall furnish regular utilization report of the BHEL T&Ps, as per requirement of BHEL.
4.2.2.12	Any loss / damage to any part of BHEL T&Ps and MMEs shall be to the contractor's account and any expenditure on these accounts by BHEL will be recovered from the contractor's bill in case the contractor fails to make good the loss.
4.2.2.13	It shall be responsibility of the contractor to take delivery of T&Ps and MMEs from stores or place of use by other contractor at project site, transport the same to site and return the same to BHEL store / place as intimated by Engineer in project site in good working conditions after use.
4.2.2.14	The contractor shall return BHEL T&Ps and MMEs issued to him in good working condition as and when desired by BHEL (on completion or reduction of workload). If contractor delays return of T&P and MME, hire charges as applicable shall be levied by BHEL from time, it was requisitioned till the time of actual return. T&Ps and MMEs returned in damaged / unserviceable condition shall be got repaired by BHEL at its own discretion and entire cost of repair with BHEL overheads shall be recovered from the contractor.
4.2.2.15	Replacement cost including BHEL overheads in respect of irreparable / completely damaged / non return of T&Ps and MMEs shall be recovered from the contractor's running / final bills
4.2.2.16	Obligations in respect of Cranes provided by BHEL
a)	BHEL will make available the cranes (as per Technical Conditions of Contract) free of charge to the contractor on sharing basis mainly for the purposes enumerated/ indicated therein. BHEL cranes have to be shared with other agencies / contractors of BHEL. The allocation of cranes shall be the discretion of BHEL engineer, which shall be binding on the contractor.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

b)	<p>BHEL Cranes may be initially issued in basic assembled condition. Any alteration/addition like boom reduction / extension, assembly of components/sub-assemblies needed for modulating the capacity/reach/other features of cranes and restoration to the state as directed by BHEL shall be the contractor's responsibility.</p>
c)	<p>In case the BHEL cranes are not covered under AMC of BHEL, then the day-to-day upkeep and running maintenance like filling / topping up of lubricants, changing filters, etc including repair of self starter and dynamo of these cranes shall be the responsibility of the contractor. If on checking it is found that the same is not followed, BHEL will exercise its right to get the job/works done at the risk and cost of contractor.</p> <p>In case BHEL cranes are covered under AMC awarded by BHEL, then the day-to-day upkeep and running maintenance as described above are excluded from scope. However any additional helpers if any required during Preventive/Breakdown Maintenance, Assembly/disassembly shall be provided by contractor at no extra cost.</p> <p>BHEL may also provided cranes through crane hiring agencies in which case the day-to-day upkeep and running maintenance shall be excluded from scope of contractor.</p>
d)	<p>Minor consumables like cotton cloth, cotton waste, etc is to be supplied by Contractor. All spares and lubricants/grease is excluded from scope. Contractor to give the requirements of these items well in advance in case the cranes provided by BHEL are BHEL owned cranes.</p>
e)	<p>Unless otherwise specified, trained operators for BHEL owned cranes shall be provided by the contractor. These operators should possess valid license for heavy vehicle.</p>
f)	<p>BHEL cranes will be withdrawn for regular and capital maintenance as per the respective schedule of maintenance. As far as possible such schedules will be intimated to the contractor in advance and may be adjusted depending on the work requirements at site. However no claim whatsoever will be entertained on account of non-availability of cranes.</p>
g)	<p>Where the services of the cranes provided by BHEL are to be shared by other agencies/ contractors of BHEL, the contractor's responsibilities defined above will also be apportioned accordingly to the beneficiary agency. Working arrangements in this regard will be done at site by BHEL engineer and in any case his decision shall be final and binding.</p>

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

h)	Major breakdowns will be attended to by BHEL. However, in case of breakdowns or damages due to negligence of the contractor, the complete service/repair charges including cost of spares shall be to the account of the contractor, along with BHEL overheads.
4.2.2.17	Obligations in respect of Construction Lift/Elevators provided by BHEL
a)	The total erection including commissioning, maintenance, statutory clearances shall be included in scope of work. Supervision by the original equipment supplier or their authorized agency shall be arranged for by BHEL, in case found necessary.
b)	All day to day and routine maintenance and checking is to be carried out by the contractor as per the recommendations of the supplier. He should periodically check the brakes and carry out the all works to ensure the safety of all those using the lift/elevator. BHEL shall arrange spares required for upkeep of Construction lift/elevator
c)	The construction lift/elevator should never be overloaded as this can lead to serious accidents. Ensuring all safety aspects in operation of the lift shall be the responsibility of the contractor. Erection of all the required number of landing platforms is included in scope. Landing platforms are to be provided with proper barricades and hand railings.
d)	After completion of contractual scope of work or as per BHEL advice, the temporary elevator/lift shall be dismantled and handed over to BHEL neatly identified/tagged. Temporary structures/platforms etc erected for the elevators/lifts are also to be dismantled and materials to be returned to stores as applicable. The construction and dismantling of the foundations required for the construction/elevator lifts is included in the scope of the contractor.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – V : Responsibilities of Contractor in respect of Labour, Supervisory Staff, etc.

5.0	RESPONSIBILITIES OF CONTRACTOR IN RESPECT OF LABOUR, SUPERVISORY STAFF, ETC.
5.1	Refer relevant clauses of General Conditions of Contract (GCC) also in this regard
5.2	The contractor shall deploy all the necessary skilled/semiskilled/ unskilled labour including highly skilled workmen etc. These workmen should have previous experience on similar job. They shall hold valid certificates wherever necessary. BHEL reserves the right to insist on removal of any employee of the contractor at any time if he is found to be unsuitable and the contractor shall forthwith remove him.
5.3	Contractor shall also comply with the requirements of local authorities/ project authorities calling for police verification of antecedents of the workmen, staff etc.
5.4	It is the responsibility of the contractor to engage his workmen in shifts and or on overtime basis for achieving the targets set by BHEL. This target may be set to suit BHEL's commitments to its customer or to advance date of completion of events or due to other reasons. The decision of BHEL in regard to setting the erection and commissioning targets will be final and binding on the contractor.
5.5	Contractor shall provide at different elevation suitable arrangement for urinal and drinking water facility with necessary plumbing & disposal arrangement including construction of septic tank. These installations shall be maintained in hygienic condition at all times.
5.6	NOT APPLICABLE
5.7	NOT APPLICABLE
5.8	NOT APPLICABLE
5.9	BHEL / customer may insist for witnessing the regular payment to the labour. They may also like to verify the relevant records for compliance with statutory requirements. Contractor shall enable such facilities to BHEL / Customer.
5.10	Contractor shall deploy only qualified and experienced engineers/ supervisors. They shall have professional approach in executing the work.
5.11	The contractor's supervisory staff shall execute the work in the most professional manner in the stipulated time. Accuracy of work and aesthetic finish are essential part of this contract. They shall be responsible to ensure that the assembly and workmanship conform to dimensions and tolerances given in the drawings/instructions given by BHEL engineer from time to time.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – V : Responsibilities of Contractor in respect of Labour, Supervisory Staff, etc.

5.12	The supervisory staff employed by the contractor shall ensure proper outturn of work and discipline on the part of the labour put on the job by the contractor. Also in general they should see that the works are carried out in a safe and proper manner and in coordination with other labour and staff employed directly by BHEL or other contractors of BHEL or BHEL's client.
5.13	It is the responsibility of the contractor to arrange gate pass for all his employees, T&P etc for entering the project premises. Necessary coordination with customer officials is the responsibility of the contractor. Contractor to follow all the procedures laid down by the customer for making gate passes. Where permitted, by customer / BHEL, to work beyond normal working hours, the contractor shall arrange necessary work permits for working beyond normal working hours.
5.14	The actual deployment will of Labour and Engineer/supervision staff shall be so as to satisfy the erection and commissioning targets set by BHEL. If at any time, it is found that the contractor is not in a position to deploy the required engineers/supervisors/workmen due to any reason, BHEL shall have the option to make alternate arrangements at the contractor's risk and cost. The expenditure incurred along with BHEL overheads thereon shall be recovered from the contractor
5.15	Contractor shall not deploy women labour at night.

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter – VI: Material Handling, Storage & preservation

6.0	MATERIAL HANDLING, STORAGE AND PRESERVATION ETC
6.1	MATERIAL HANDLING AND STORAGE
6.1.1	All the equipments/materials furnished under this contract shall be received from the project stores, sheds / storage yards and transported to pre assembly area / erection site and stored in the storage spaces in a manner so that they are easily retrievable till the contractor erects them. While drawing/lifting material from BHEL / customer stores, the contractor shall ensure that the balance / other materials are stacked back immediately. No claim is admissible on this account
6.1.2	While BHEL will endeavor to store / stack / identify materials properly in their open / close / semi closed / tarpaulins covered storage yard / shed, it shall be contractor's responsibility to assist BHEL in identifying materials well in time for erection. They should take the delivery of the same, following the procedure indicated by BHEL, and transport the material safely to pre-assembly yard / erection site in time, according to program.
6.1.3	NOT APPLICABLE
6.1.4	The contractor shall identify and deploy necessary Engineers / supervisors / workmen for the above work in sufficient number as may be needed by BHEL, for areas covering their scope.
6.1.5	All the equipment shall be handled very carefully to prevent any damage or loss. No untested wire ropes / slings etc. shall be used for unloading / handling. The equipment shall be properly protected to prevent damage either to the equipment or to the floor where they are stored. The equipment from the stores shall be moved to the actual location at the appropriate time so as to avoid damage of such equipment at site.
6.1.6	Contractor shall ensure that while lifting slings shall be put over the points indicated on the equipment or as indicated in the manufacturer's drawings. Slings / shackles of proper size shall be used for all lifting and rigging purposes. All care shall be taken to safe guard the equipment against any damage. Dragging of piping / valves should be avoided. In case of any damage the cost shall be covered from the contractor.
6.1.7	Approach road conditions may not be equipped and ideal for smooth transportation of the equipment. Contractor may have to be adequately prepared to transport the materials under the above circumstances without any

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – VI: Material Handling, Storage & preservation

	extra cost. . The contractor may familiar himself with soil conditions at site.
6.1.8	Contractor shall be responsible for examining all the plant and materials issued to him and notify the Engineer immediately of any damage, shortage, discrepancy etc before they are moved out of the stores / storage area. The contractor shall be solely responsible for any shortages or damages in transit, handling, storage and erection of the equipment once received by him. As the erection work will be spread in different areas / locations of the project, contractor has to arrange sufficient number of watch / ward personal to avoid any pilferage of material
6.1.9	The contractor shall maintain an accurate and exhaustive record-detailing out the list of all equipment received by him for the purpose of erection and keep such record open for the inspection of the engineer at any time.
6.1.10	All the material in the custody of contractor and stored in the open or dusty locations must be covered with suitable weather proof / fire retardant covering material wherever applicable and shall be blocked up on raised level above ground. All covering materials including blocks and sleeper shall be arranged by the contractor at his cost.
6.1.11	If the material belonging to the contractor are stored in area other than those earmarked for his operation the engineer will have the right to get it moved to the area earmarked for the contractor at the contractors risk and cost.
6.1.12	The contractor shall be responsible for making suitable indoor storage facilities to store all equipment (drawn by the contractor from BHEL / customer stores), which require indoor storage till the time of their installation. The Engineer will direct the contractor in this regard, which item in his opinion will require indoor storage, and the contractor shall comply with Engineer's decision.
6.1.13	The contractor shall ensure that all surplus / damaged / scrap / unused material, packing wood / containers/ special transporting frames etc are returned to BHEL at a place in project area identified by the Engineer. The contractor will maintain an account for all items received and returned to BHEL. Any shortage in returning such items shall be chargeable to the contractor except allowable wastage for packing wood only.
6.1.14	The contractor shall hand over all parts / materials remaining extra over the normal requirement with proper identification tags to the stores as directed by the concerned BHEL engineer.
6.1.15	The contractor shall ensure that all the packing materials and protective devices installed on equipment during transit and storage are removed before

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter – VI: Material Handling, Storage & preservation

	installation.
6.1.16	It shall be the responsibility of the contractor to keep the work / storage areas in neat, tidy and working conditions. All surplus/unusable packing and other materials shall be removed and deposited at location(s) specified by BHEL within the project premises. If required weighing of the same within the project premises will have to be carried out.
6.2	PRESERVATION OF COMPONENTS
6.2.1	After taking delivery from BHEL / customer's stores, plant materials storage shall be subjected to the following protection besides other provisions indicated in these specifications elsewhere.
6.2.1.1	Items stored outdoors shall be stacked up at least six inches (6") off the ground. Items should not be stored in a low lying area where water logging is a possibility. Contractor should have sufficient numbers of wooden / concrete / steel sleepers for the job.
6.2.1.2	Motors, valves, electrical equipment, control equipment and instruments, and special or precision items requiring special care, etc shall be stored indoors. Motor windings shall be kept dry by use of external heat or space heaters.
6.2.1.3	Bearings and other wearing surfaces of plant materials shall be protected against corrosion and kept clean and should be regularly monitored.
6.2.1.4	Insulation materials shall be stored indoors or otherwise protected against getting wet/ damaged, using suitable measures and should be protected from direct rain.
6.2.2	It shall be the responsibility of the contractor to apply preservatives / touch up paints (primer) on equipment handled and erected by him till such time of final painting. It shall be contractor's responsibility to arrange for required paints (primer), thinners, labour, scaffolding materials, cleaning materials like wire brush, emery sheets, etc, cleaning of surface and provide one coat of preservatives / paints (primer) from time to time as decided by BHEL engineer. The accepted rate shall include this work also. It is to be noted that such painting may have to be done as and when required till such time the final painting is carried out.
6.2.3	The contractor shall effectively protect the finished work from action of weather and from damage or defacement and shall cover the finished parts then and there for their protection.
6.2.4	Any failure on the part of contractor to carry out works according to above clauses will entail BHEL to carry out the job from any other party and recover

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter – VI: Material Handling, Storage & preservation

	the cost from contractor.
--	---------------------------

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter – VII: Drawings and documents

7.0	DRAWINGS AND DOCUMENTS
7.1	The detailed drawings, specifications available with BHEL engineers will be made available to the contractor during execution of work at site. The contractor will also ensure availability of all drawings / documents at work place.
7.2	Necessary drawings to carry out the erection work will be furnished to the contractor by BHEL on loan, which shall be returned to BHEL Engineer at site after completion of work. Contractor shall ensure safe storage and quick retrieval of these documents.
7.3	The contractor shall maintain a record of all drawings and documents available with him in a register as per format given by BHEL Engineer. Contractor shall ensure use of pertinent drawings / data / documents and removal of obsolete ones from work place and returning to BHEL.
7.4	The data furnished in various annexure enclosed with this tender specification are only approximate and for guidance. However, the change in the design and in the quantity may occur as is usual in any such large scale of work. The contractors quoted rates shall be inclusive of the above factor
7.5	Should any error or ambiguity be discovered in the specification or information the contractor shall forthwith bring the same to the notice of BHEL before commencement of work. BHEL's interpretation in such cases shall be final and binding on the contractor.
7.6	Deviation from design dimensions should not exceed permissible limit. The contractor shall not correct or alter any dimension / details, without specific approval of BHEL.

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter – VIII: Inspection and Quality

8.0	INSPECTION AND QUALITY
8.1	Inspection, Quality Assurance, Quality Control
8.1.1	Preparation of quality assurance log sheets and protocols with customer/consultants/statutory authority, welding logs, NDE records, testing & calibration records and other quality control and quality assurance documentation as per BHEL engineer's instructions, is within the scope of work/specification. These records shall be submitted to BHEL/customer for approval from time to time.
8.1.2	The protocols between contractor and customer/ BHEL shall be made prior to installation for correctness of foundations, materials, procedures, at each stage of installation, generally as per the requirement of customer/ BHEL. This is necessary to ensure elimination of errors or keeping them within tolerable limits and to avoid accumulation and multiplication of errors.
8.1.3	A daily log book should be maintained by every supervisor/engineer of contractor on the job in duplicate (one for BHEL and one for contractor) for detailing and incorporating alignment/clearance / centering / leveling readings and inspection details of various equipments etc. High pressure welding details like serial number of weld joints, welders name, date of welding, details of repair, heat treatment etc. will be documented in welding log as per BHEL Engineer's instructions.
8.1.4	The performance of welders will be reviewed from time to time as per the BHEL standards. Welders' performance record shall be furnished periodically furnished for scrutiny of BHEL's Engineer. Corrective action as informed by BHEL shall be taken in respect of those welders not conforming to these standards. This may include removal/ discontinuance of concerned welder(s). Contractor shall arrange for the alternate welders immediately
8.1.5	NOT APPLICABLE
8.1.6	Contractor shall provide all the Measuring Monitoring Equipments (MMEs) required for completion of the work satisfactorily. These MMEs shall be of brand, quality and accuracy specified by BHEL Engineer and should have necessary calibration and other certificates as per the requirement of BHEL Engineer. Decision of BHEL Engineer regarding acceptance or otherwise of the measuring instruments/gauges/tools for the work under this specification, is

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – VIII: Inspection and Quality

	final and binding on the contractor. BHEL may give an indicative list of MMEs required for this work and to be made available by the contractor. The list will be reviewed by BHEL and the contractor shall meet any augmentation needed wherever required.
8.1.7	It is the responsibility of the contractor to prove the accuracy of the testing/measuring/calibrating equipments brought by him based on the periodicity of calibration as called for in the BHEL's quality assurance standards/BHEL Engineer's instructions.
8.1.8	Any re-laying or re-termination of cables/re-erection of instruments/recalibration of instruments etc. required due to contractor's mistake or design requirement and found at any stage inspection, shall be carried out by the contractor at no extra cost.
8.1.9	BHEL, Power Sector Regions (PSNR/PSER/PSWR/PSSR) have already been accredited with ISO 9001 certification and as such this work is subject to various audits to meet ISO 9001 requirements. One particular aspect which needs special mention is about arrangement of calibration of instruments by the contractor. Contractor shall ensure deployment of reliable and calibrated MMEs (Measuring and Monitoring Equipments). The MMEs shall have test / calibration certificates from authorised / Government approved / Accredited agencies traceable to National / International Standards. Re-testing / re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer within the contract price. The contractor will also have alternate arrangements for such MMEs so that work does not suffer when the particular equipment / instrument is sent for calibration. Also if any MMEs not found fit for use, BHEL shall have the right to stop the use of such item and instruct the contractor to deploy proper item and recall ie repeat the readings taken by that instrument, failing which BHEL may deploy MME and retake the readings at Contractor's cost.
8.1.10	Re-work necessitated on account of use of invalid MMEs shall be entirely to the contractor's account. He shall be responsible to take all corrective actions, including resource augmentation if any, as specified by BHEL to make-up for the loss of time.
8.1.11	In the courses of erection, it may become necessary to carry repeated checks of the work with instruments recently calibrated, re-calibrated. BHEL may counter/ finally check the measurements with their own MMEs. Contractor shall

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter – VIII: Inspection and Quality

	render all assistance in conduct of such counter/final measurements.
8.1.12	Total Quality is the watchword of the work and Contractor shall strive to achieve the Quality Standards, procedures laid down by BHEL. He shall follow all the instructions as per BHEL drawings and Quality Standards.
8.2	Stage Inspection By FES/QA Engineers
8.2.1	Apart from day-to-day inspection by BHEL Engineers stationed at Site and Customer's Engineers, stage inspection of equipments under erection and commissioning at various stages may also be conducted by teams of Engineers from Field Engineering Services of BHEL's Manufacturing Units, Quality Assurance teams from Field Quality Assurance, Unit/Factory Quality Assurance and Commissioning Engineers from Technical Services etc. Contractor shall arrange all labour, tools and tackles etc along with proper access for such stage inspections free of cost.
8.2.2	Any modifications suggested by BHEL FES and QA Engineers' team shall be carried out. Claims of contractor, if any, shall be dealt as per Section 13, and provided such modifications have not arisen for reasons attributable to the contractor.
8.3	Statutory Inspection of Work
8.3.1	The work to be executed under these specifications has to be offered for inspection, at appropriate stages of work completion, to various statutory authorities for compliance with applicable regulations. The work related statutory inspections, as applicable, as per Afghanistan Laws. The scope includes getting the approvals from the statutory authorities, which includes arranging for inspection visits of statutory authority periodically as per BHEL Engineer's instructions, arranging materials/documents for ground inspection, submitting co-related inspection reports, documents, etc and following up the matter with them. Contractor shall also make all arrangements for offering the Products / Systems for inspection at location, as applicable, to the concerned authority
8.3.2	NOT APPLICABLE
8.3.3	NOT APPLICABLE
8.3.4	NOT APPLICABLE

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter – VIII: Inspection and Quality

8.4	The Quality Management System of BHEL, Power Sector Regions (PSNR/PSER/PSWR/PSSR) have already been certified and accredited under ISO 9002 standards in this regard. The basic philosophy of the Quality Management System is to define the organizational responsibility, work as per documented procedures, verify the output with respect to acceptance norms, identify the non-conforming product/ procedure and take corrective action for removal of non-conformance specifying the steps for avoiding recurrence of such non-conformities, & maintain the relevant quality records. The non conformities are to be identified through the conduct of periodical audit of implementation of quality systems at various locations/stages of work. Suppliers/vendors of various products/services contributing in the work are also considered as part of the quality management system. .as such the contractor is expected not only to conform to the quality management system of BHEL but also it is desirable that they themselves are accredited under any quality management system standard.
8.5	Field Quality Assurance
8.5.1	Contractor shall carry out all activities conforming to the approved Field Quality Plan (FQP) as revised from time to time. Total quality shall be the watchword of the work and contractor shall strive to achieve the quality standards, procedures laid down by BHEL. He shall follow all the instructions as per BHEL drawings and quality standards. Contractor shall provide the services of quality assurance engineer as per the relevant clauses.

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

9.0	<p>OCCUPATIONAL HEALTH, SAFETY & ENVIRONMENT MANAGEMENT/ QUALITY ASSURANCE PROGRAMME : BHEL, Power Sector Regions (PSNR/ER/WR/SR) are each certified for ISO 9001. Quality of work to customer's satisfaction and fulfillment of system requirements are the essence of ISO 9001 certification. BHEL, PS Regions have HSE certification (ISO 14001 & OHSAS 18001) and therefore Contractor also shall organise/ plan/ perform all their activities to meet with the applicable requirements of these standards.</p>
9.1	<p>HSE (Health, safety & Environment): Contractor will comply with HSE (Health, safety & Environment) requirements of BHEL. HSE requirements in brief, are given below :-</p>
9.1.1	<p>Contractor will nominate one of their qualified and experienced employees as Safety Officer, who will be responsible for all HSE related issues of contractors work area. Safety Officer will have authority to stop any activity, in case he observes that the activity is not being carried out in safe manner. He will conduct surprise inspection as well as periodic inspection/drill (at least once in a month) and submit such reports to BHEL. He will conduct periodic meetings with supervisors of different working groups and explain HSE issues and use of PPEs to them. Reports of such meetings will be submitted to BHEL. Contractor will develop suitable work procedures based upon HSE guidelines and OCPs and implement it. Such work procedures will consist of Area of work, T&P Details, Work Procedure, PPE requirements etc.</p> <p>Contractor should highlight the requirement of safety to staff and labour through daily tool box meeting before start of the days job</p>
9.1.2	<p>The contractor shall ensure that proper job specific health check-up is done by medical professional for their employees during initial mobilization and thereafter if there is any change of job.</p>
9.1.3	<p>Following personnel protective equipments (PPEs), in adequate numbers, will be made available at site & their regular use by all concerned will be ensured :-</p> <ul style="list-style-type: none"> - HELMET - SAFETY GOGGLES & WELDING FACE SHIELDS - SAFETY BELTS AND PROTECTIVE NET FOR WORKING AT HEIGHT - SAFETY SHOES - EAR PLUG - ANY OTHER SAFETY EQUIPMENT REQUIRED FOR SAFE COMPLETION OF THE WORK

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

9.1.4	Providing appropriate First Aid facilities for prompt treatment of injuries and illness at work place. Arranging training to contractor workmen/ employees for giving first aid.
9.1.5	Arranging ambulance in case of any emergency situation .
9.1.6	Identification of nearest hospital and health check-up of workmen/employees
9.1.7	Providing filtered drinking water at work place in cool container.
9.1.8	Providing Canteen, Rest Room, Washing facilities to the contracted employees as per provisions of Contract Labour Regulation Act 1970 (Chapter V).
9.1.9	Providing appropriate fire fighting equipment at designated work place and nominate a fire officer/warden adequately trained for his job.
9.1.10	Identification of nearest fire station and display contact telephone nos. / person's name around work places for cases of emergencies .
9.1.11	Providing adequate no. of 24 V sources and ensure that no hand lamps are operating at voltage level above 24 Volts.
9.1.12	Fulfilling safety requirements at all power tapping points.
9.1.13	Red & White caution tape of proper width(1.5 to 2 inch) to be used for cordoning unsafe area such as open trench, excavation area etc.
9.1.14	Providing contractors company logo on cloths /uniform/ proper identity cards with photographs, for correct identification of people working at project site .
9.1.15	High/ Low pressure welders to be identified with separate colour clothings. No welders will be deployed without passing appropriate tests and holding valid welding certificates. Approved welding procedure should be displayed at work place.
9.1.16	Displaying safe handling procedures for all chemicals such as lube oil, acid, alkali, sealing compounds etc , at work place .
9.1.17	All scaffolding/ platforms should be made from materials of appropriate quality/grade so that these are safe for use. It should be certified/declared safe for use by an experienced contractor person, before any scaffolding/platform is used.
9.1.18	All T&Ps/ MMEs should be of reputed brand/appropriate quality & must have valid test/calibration certificates bearing endorsement from competent authority of BHEL.
9.1.19	Ensure that the regulatory requirement of excessive weight limit (to carry/lift/ move weights beyond prescribed limits) for male and female workers are complied with.
9.1.20	Safety slogan, Safety/ Caution boards , wherever required to be displayed in consultation with BHEL.

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

9.1.21	Take suitable measures for waste management and environment related laws/legislation as a part of normal construction activities. Compliance with the legal requirements on storage/ disposal of paint drums (including the empty ones), Lubricant containers, Chemical Containers, and transportation and storage of hazardous chemicals will be strictly maintained. Ensure proper cleanliness of work place, housekeeping and waste management (including proper waste disposal) on daily basis.
9.1.22	It is imperative on the part of the contractor to join and effectively contribute in joint measures such as tree plantation, environment protection, contributing towards social upliftment, conversion of packing woods to school furniture, keeping good relation with local populace etc.
9.1.23	The contractor shall carry out periodic air and water quality check and illumination level checking in his area of work place and take suitable control measure.
9.1.24	The Contractor is required to provide proper safety net systems where ever the hazard of fall from height is present as per instruction of BHEL Engineer. The safety nets shall be fire resistant, duly tested and shall be of ISI Mark and the nets shall be located as per site requirements to arrest or to reduce the consequences of a possible fall of persons working at different heights.
9.1.25	<p>All applicable OCPs (Operational control procedures) will be followed by contractor as per BHEL instructions. This will be done as part of normal scope of work. List of such OCPs is given below . In case any other OCP is found to be applicable during the execution of work at site, then contractor will follow this as well, within quoted rate. These OCPs (applicable ones) will be made available to contractor during work execution at site. However for reference purpose, these are kept with Safety Officer of BHEL at the Power Sector Regional HQ, or available in downloadable format in the website, which may be refereed by contractor, if they so desire.</p> <ul style="list-style-type: none"> ■ OCP for safe handling of chemicals ■ OCP for Electrical safety ■ OCP for energy conservation ■ OCP for safe welding and gas cutting operation ■ OCP for fire safety ■ OCP for safety in use of hand tools ■ OCP for first aid ■ OCP for food safety at canteen ■ OCP for safety in use of cranes ■ OCP for storage and handing of gas cylinders

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE & OHSAS

■	OCP for manual arc welding
■	OCP for safe use of helmets
■	OCP for good house keeping
■	OCP for working at height
■	OCP for safe excavation
■	OCP for safe filling of Hydrogen in cylinder
■	OCP for illumination
■	OCP for handling and erection of heavy metals
■	OCP for safe acid cleaning
■	OCP for safe alkali boil out
■	OCP for safe oil flushing
■	OCP for steam blowing
■	OCP for safe working in confined area
■	OCP for safe operation of passenger lift, material hoists & cages
■	OCP for Vehicle maintenance
■	OCP for safe radiography
■	OCP for waste disposal
■	OCP for working at night
■	OCP for blasting
■	OCP for DG Set
■	OCP for handling & storage of mineral wool
■	OCP for drilling, reaming and grinding(machining) etc.
■	OCP for hydraulic test
■	OCP for spray insulation
■	OCP for trial run of rotary equipment
■	OCP for stress relieving
■	OCP for material preservation
■	OCP for cable laying/tray work
■	OCP for electrical maintenance
■	OCP for transformer charging
■	OCP for safe handling of battery system
■	OCP for computer operation
■	OCP for storage in open yard
■	OCP for sanitary maintenance
■	OCP for batching
■	OCP for piling rig operation
■	OCP for gas distribution test

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

	<ul style="list-style-type: none"> ■ OCP for cleaning of hotwell / deaerator ■ OCP for electro-resistance heating ■ OCP for compressor operation ■ OCP for O&M of control of AC plant & system ■ OCP for air compressor ■ OCP for passivation ■ OCP for Safe EDTA Cleaning ■ OCP for Safe Chemical cleaning of Pre boiler system ■ OCP for Safe Boiler Light up ■ OCP for Safe Rolling and Synchronisation ■ OCP for Safe Loading of Unit
9.2	<p>SAFETY AND CLEANLINESS :</p> <p>The contractor shall take all necessary safety precautions and arrange for appropriate appliances as per discretion of BHEL or its authorised officials (Site Construction Manager) to prevent loss of human lives, injuries, to personnel engaged and damage to property. Before commencing the work, the contractor shall submit a "Safety Plan" to the above authorised BHEL official and obtain approval on the same. The safety plan shall indicate in detail the measures that would be taken by the contractor to ensure safety of men, equipment, materials and environment during execution of the work. This will also include an organization structure, role and responsibilities of the concerned key personnel, the safety practices that will be followed, PPEs deployed, plan for handling critical activities and emergencies.</p>
9.3	<p>If the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions issued by the authorised BHEL official, BHEL shall have the right to take corrective steps at the risk and cost of the contractor.</p>
9.4	<p>During the course of construction, alternation or repairs, scrap with protruding nail, sharp edge etc and all other debris shall be kept clean from working areas, passage, ways and stairs in and around site.</p>
9.5	<p>Combustible scrap and debris shall be removed at regular intervals during the course of execution. Safe means shall be provided to facilitate such removal. The combustible scrap should be stored in safe place away from the plant materials to avoid fire accidents. The area shall be chosen in consultation with the Engineer and to be cordoned off.</p>
9.6	<p>Rigging equipment for materials handling shall be inspected prior to use in each shift and as necessary during its use to ensure that it is safe. Defective</p>

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

	rigging equipment will be removed from service.
9.7	Rigging equipment shall not be loaded in excess of its recommended safe working load. Rigging equipment, when not in use, shall be removed from the original work area so as not to present a hazard to employees.
9.8	Contractor shall notify the engineer, of his intention to bring on to site any equipment or any container, with liquid or gaseous fuel or other substance which may create a hazard. The Engineer shall have the right to prescribe the condition under which such equipment or container may be handled and used during the performance of the works and the contractor shall strictly adhere to such instructions. The Engineer shall have the right to inspect any construction tool and to forbid its use, if in his opinion it is unsafe. No claim due to such prohibition will be entertained.
9.9	Where it is necessary to provide and/or store petroleum products or petroleum mixture & explosives, the contractor shall be responsible for carrying out such provision / storage in accordance with the rules & regulations laid down in the relevant petroleum act, explosive act and petroleum and carbide of calcium manual, published by the chief inspector of explosives of India. All such storage shall have prior approval if necessary from the chief inspector of explosives or any other statutory authority. The contractor shall be responsible for obtaining the same.
9.10	Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dragged, struck or permitted to strike each other violently.
9.11	When cylinders are transported by powered vehicle they shall be secured in a vertical position.
9.12	All workmen of the contractor working on construction area shall wear safety shoes, hand gloves, safety helmets and safety belt as applicable. The contractor shall provide to its workforce and ensure the use of following personnel protective equipment as found necessary and as directed by BHEL.
9.12.1	Safety Helmets conforming to IS-2965: 1984 or equivalent International Standard.
9.12.2	Safety Belts conforming to IS-3521:1983 or equivalent International Standard.
9.12.3	Safety Shoes conforming to IS-1989 : 1978 or equivalent International Standard.

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

9.12.4	Eye and face protection devices conforming to IS – 8620 : 1977 & IS – 8950 : 1978 or equivalent International Standard.
9.12.5	Hand and body protection devices conforming to IS – 2575 : 1975 and IS – 6994 : 1973, IS – 8907 : 1970 & 8619 : 1977 or equivalent International Standard.
9.13	The contractor shall insure his workmen against all accidents and the policy shall be presented to BHEL Engineer on demand. Other wise, BHEL will arrange the same and the expenditure towards this will be debited to the contractor. In case of a fatal or disabling injury accident to any person at construction site due to lapses by the contractor, the victim and/or his/her dependants shall be compensated by the contractor as per statutory requirements. However, if considered necessary BHEL shall have the right to impose appropriate financial penalty on contractor and recover the same from payments due to the contractor for suitably compensating the victim and/or his/her dependence before imposing any such penalty. Appropriate enquiry shall be held by BHEL giving opportunity to the contractor for presenting his case. Above safety conditions are not exhaustive but gives an idea for the contractor and contractor shall adhere to all safety precaution given by the Engineer at site.
9.14	The contractor shall arrange at his cost adequate lighting facilities e.g. flood lighting, hand lamps, area lighting etc. at various levels for safe and proper working operations during night hours at the work spot as well as at the pre-assembly area.
9.15	The contractor shall be responsible for provision of all the safety notices and safety equipment as enjoined on him by the application of relevant statutory regulation / provisions and/or as called upon by BHEL from time to time. He shall be held responsible for any violation of statutory regulations (local, state or central) and BHEL instruction that may endanger safety of men, equipment and material.
9.16	The contractor shall provide temporary fencing wherever required as a safety measure against accident and damage to properties. Suitable caution notices shall be displayed where access to any part is found to be unsafe and hazardous.
9.17	Contractor shall ensure safety of all the workmen, material and equipment either belonging to him or to others working at site. He shall observe safety rules and codes applied by BHEL without exception.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE & OHSAS

9.18	It will be the responsibility of the contractor to ensure safe lifting of the equipment, taking due precaution to avoid any accident and damage to other equipment and personnel. All requisite tests and inspection of handling equipment, tools & tackle shall be periodically done by the contractor. Defective equipment shall be removed from service. Any equipment shall not be loaded in excess of its recommended safe working load.
9.19	The contractor shall provide necessary first aid facilities for all his employees, representatives and workmen at site and BHEL shall have no obligation in this regard. The first aid boxes should be placed at various elevations so as to make them available within the reach and at the quickest possible time. The contractor should conduct periodical first –aid classes to keep his supervisor and Engineers properly trained for attending to any emergency.
9.20	All the contractor's supervisory personnel and sufficient number of workers shall be trained for fire protection systems. Enough number of such trained personnel must be available during the tenure of contract. Contractor should nominate his supervisor to coordinate and implement the safety measures.
9.21	Contractor shall provide enough fire protecting equipment of the types and numbers at his office, stores, temporary structure in labour colony etc. Such fire protection equipment shall be easy and kept open at all times. The fire extinguishers shall be properly refilled and kept ready which should be certified at periodic intervals. The date of changing should be marked on the Cylinders. All other fire safety measures as laid down in the "codes for fire safety at construction site" issued by safety coordinator of BHEL shall be followed. Non-compliance of the above requirement under fire protection shall in no way relieve the contractor of any of his responsibility and liabilities to fire accident occurring either to his materials or equipment or those of others.
9.22	The contractor shall at his cost, remove from vicinity of work at least once each day all combustible waste, scrap, painting materials, rubbish, unused or other materials and deposit them in places specified by BHEL to keep the work site clear and tidy. Use of undercoated canvas paper, corrugated paper, fabricated carton, plastic or other flammable materials shall be restricted to the minimum and promptly removed.
9.23	The contractor shall not use any hand lamp energized by Electric power with supply voltage of more than 24 volts in confined spaces like inside water boxes, turbine casings, condensers etc.
9.24	All portable electric tools used by the contractor shall have safe plugging

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

	system to source of power and be appropriately earthed. Only electricians licensed by appropriate statutory authority shall be employed by the contractor to carry out all types of electrical works.
9.25	In case of any delay in completion of a job due to mishaps attributable to lapses by the contractor, BHEL shall have the right to recover cost of such delay from the payments due to the contractor, after notifying the contractor suitably.
9.26	Valve protection caps shall be kept in place and secured.
9.27	NOT APPLICABLE
9.28	Tarpaulin being inflammable should not be used (instead, only non infusible covering materials shall be used) as protective cover while preheating, welding, stress relieving etc. at site.
9.29	If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given reasonable opportunity to do so and/or if the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instruction regarding safety issued by BHEL, BHEL shall have the right to take corrective steps at the risk and cost of the contractor after giving a notice of not less than 7 days indicating the steps that would be taken by BHEL.
9.30	If the contractor succeeds in carrying out its job in time with out any fatal or disabling injury accident and without any damage to property BHEL may, at its sole discretion, favorably consider to reward the contractor suitably for the performance.
9.31	The contractor shall carefully follow the safety requirement of BHEL/ the purchaser with the regard to voltages used in critical areas.
9.32	The contractor shall use only properly insulated and armored cables which conform to the requirement of Indian Electricity Act and Rules for all wiring, electrical applications at site. BHEL reserves the right to replace any unsafe electrical installations, wiring, cabling etc. at the cost of the contractor. All electrical appliances used in the work shall be in good working condition and shall be properly earthed. No maintenance work shall be carried out on live equipment. The contractor shall maintain adequate number of qualified electricians to maintain his temporary electrical installations.
9.33	The contractor shall arrange adequate number of persons specifically for clearing any debris and for house keeping of the erection area including

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

	restacking of components in the erection areas.
9.34	In case of any damage to property due to lapses by the contractor, BHEL shall have the right to recover the cost of such damages from the contractor after holding an appropriate enquiry.
9.35	The contractor shall submit report of all accidents, fires and property damage etc to the Engineer immediately after such occurrence, but in any case not later than 24 hours of the occurrence. Such reports shall be furnished in the manner prescribed by BHEL. In addition periodic reports on safety shall also be submitted by the contractor to BHEL from time to time as prescribed by the Engineer.
9.36	Before commencing the work, the contractor shall appoint/nominate a responsible person to supervise implementation of all safety measures and liaison with his counterpart of BHEL.
9.37	Suitable scaffolds shall be provided for workman for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration of work which can be done safely from ladders. When a ladder is used, it shall be of rigid construction made of steel. The steps shall have a minimum width of 45 cm and a maximum rise of 30 cm. Suitable handholds of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than ¼ horizontal and 1 vertical.
9.38	Scaffolding or staging more than 3.6 m above the ground floor, swung or suspended from an overhead support or erected with stationery support shall have a guard rail properly bolted, braced or otherwise secured, at least 90 cm above the floor or platform of such scaffolding or staging and extending along the entire length of the out side and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying, from the building or structure.
9.39	Working platforms, gangways and stairways shall be so constructed that they do not sag unduly or unequally and if the height of the platform gangways provided is more than 3.6 m above ground level or floor level, they shall be closely boarded and shall have adequate width which shall not be less than 750 mm and be suitably fenced as described above.
9.40	Every opening in the floor or a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

	providing suitable fencing or railing whose minimum height shall be 90 cm.
9.41	Wherever there are open excavation in ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into the excavations.
9.42	Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 m in the length while the width between side rails in rung ladder shall in no case be less than app. 29.2 cm for ladder upto and including 3 m in length. For longer ladders this width shall be increased at least ¼" for each additional foot of length.
9.43	A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Engineer obtained prior to Construction.
9.44	All personnel of the Contactor working within the plant site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal worker shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.
9.45	Adequate precautions shall be taken to prevent danger for electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public.
9.46	All trenches, four feet or more in depth, shall at all times be supplied with at least one ladder for each 30 m in length or fraction thereof. The ladder shall be extended from bottom of the trench to at least 90 cm above the surface of the ground. Sides of the trenches which are 1.50 m or more in depth shall be stepped back to give suitable slope or securely held by timer bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.
9.47	The Contactor shall take all measures at the sites of the work to protect all persons from accidents and shall be bound to bear the expenses of defense of every suit, action or other proceeding at law that may be brought by any persons for injury sustained or death owing to neglect of the above precautions and to pay any such persons such compensation or which may with the consent of the Contractor be paid to compromise any claim by any such person should such claim proceeding be filed against BHEL, the Contractor hereby agrees to indemnify BHEL against the same.

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

9.48	Before any demolition work is commenced and also during the process of the work the following shall be ensured:
9.48.1	All roads and open areas adjacent to the work site shall either be closed or suitably protected.
9.48.2	No electric cable or apparatus which is liable to be a source of danger nor a cable or an apparatus used by the operator shall remain electrically charged.
9.48.3	All practical steps shall be taken to prevent danger to persons employed from the risks of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render them unsafe.
9.49	All necessary personnel safety equipment as considered adequate by the Engineer should be kept available for the use of the persons employed in the Site and maintained in a condition suitable for immediate use and the Contactor should take adequate steps to ensure proper use of equipment by those concerned.
9.49.1	Workers employed on mixing asphalted materials, cement and lime mortars shall be provided with protective foot wear and protective goggles.
9.49.2	Those engaged in white washing and mixing or stacking of cement bags or any materials which is injurious to the eyes shall be provided with protective goggles.
9.49.3	Those engaged in welding works shall be provided with welder's protective eyesight lids.
9.49.4	Stone breakers shall be provided with protective goggles and protective clothing and seated sufficient to safe intervals.
9.49.5	Where workers are employed in sewers and manholes, which are in use, the Contractor shall ensure that the manhole covers are opened and ventilated at least for an hour before the workers are allowed to get into manhole, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public.
9.49.6	The Contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precautions should be taken.
9.49.6.1	No paint containing lead or lead products shall be used except in the form of

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

	paste or ready made paint.
9.49.6.2	Suitably face masks should be supplied for use by the workers where paints are applied in the form of spray or a surface having lead paint dry rubbed and scrapped.
9.49.6.3	Overalls shall be supplied by the Contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.
9.50	When the work is being done near any place where there is risk of drowning all necessary equipment should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.
9.51	Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safe guards. Hoisting appliance should be provided with such means as will reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers employed on electrical installations which are already energized, insulting mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductor of electricity.
9.52	All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near the places of work.
9.53	The contractor shall maintain and ensure necessary safety measures as required for inspection and tests HV test, Pneumatic test, Hydraulic test, Spring test, Bend test etc as applicable, to enable. inspection Agency for performing Inspection. If any test equipment is found not complying with proper safety requirements then the Inspection Agency may withhold inspection, till such time the desired safety requirements are met.
9.54	The Contractor shall notify BHEL of his intention to bring to site any equipment or material which may create hazard. BHEL shall have the right to prescribe the conditions under which such equipment or materials may be handled and the contractor shall adhere to such instructions. BHEL may prohibit the use of any construction machinery, which according to him is unsafe. No claim for

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

	compensation due to such prohibition will be entertained by BHEL.													
9.55	All safety precautions shall be taken for welding and cutting operations as per IS-818. All safety precautions shall be taken for foundation and other excavation marks as per IS-3764.													
9.56	These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent, place at work spot. The persons responsible for compliance of the safety code shall be named therein by the Contractor.													
9.57	To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangement made by the contract shall be open to inspection by the Engineer of the Engineer's Representative.													
9.58	Keeping the work area clean/ free from debris, removed scaffoldings, scraps, insulation/sheeting wastage /cut pieces, temporary structures, packing woods etc. will be in the scope of the contractor. Such cleanings has to be done by contractor within quoted rate, on daily basis by an identified group. If such activity is not carried out by contractor / BHEL is not satisfied, then BHEL may get it done by other agency and actual cost alongwith BHEL overheads will be deducted from contractor's bill. Such decisions of BHEL shall be binding on the contractor.													
9.59	Notwithstanding the above clauses there is nothing to exit the Contractor from the operations of any other Act or Rule in force in area of work in this respect. Provided always that all safety measures apart from those specifically provided in this agreement which are brought to the notice of the Contractor from time to time by the Engineer shall be complied by the Contractor. Provided further that all consequences, damages, or losses arising by reason of any safety code shall be met with by the Contractor.													
9.60	<p><u>NON COMPLIANCE:-</u> NONCONFORMITY OF SAFETY RULES AND SAFETY APPLIANCES WILL BE VIEWED SERIOUSLY AND BHEL HAS RIGHT TO IMPOSE FINES ON THE CONTRACTOR AS UNDER <u>for every instance of violation noticed:</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">SN</th> <th style="width: 70%;">Violation of Safety Norms</th> <th style="width: 20%;">Fine (in USD)</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>Not Wearing Safety Helmet</td> <td>50/-</td> </tr> <tr> <td>02.</td> <td>Not wearing Safety Belt</td> <td>100/-</td> </tr> <tr> <td>03.</td> <td>Grinding Without Goggles</td> <td>50/-</td> </tr> </tbody> </table>		SN	Violation of Safety Norms	Fine (in USD)	01	Not Wearing Safety Helmet	50/-	02.	Not wearing Safety Belt	100/-	03.	Grinding Without Goggles	50/-
SN	Violation of Safety Norms	Fine (in USD)												
01	Not Wearing Safety Helmet	50/-												
02.	Not wearing Safety Belt	100/-												
03.	Grinding Without Goggles	50/-												

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

	04.	Not using 24 V Supply For Internal Work	500/-
	05.	Electrical Plugs Not used for hand Machine	100/-
	06.	Not Slings property	200/-
	07.	Using Damaged Sling	200/-
	08.	Lifting Cylinders Without Cage	500/-
	09.	Not Using Proper Welding Cable With Lot of Joints And Not Insulated Property.	200/-
	10.	Not Removing Small Scrap From Platforms	200/-
	11.	Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting	200/-
	12.	Not Maintaining Electric Winches Which are Operated Dangerously	500/-
	13.	Improper Earthing Of Electrical T&P	500/-
	14.	Accident Resulting in Partial Loss in Earning Capacity	25,000/- per victim
	15.	Fatal Accident/Accidents Resulting in total loss in Earning Capacity	1,00,000/ - per victim
	<p>Any other non-conformity noticed not listed above will also be fined as deemed fit by BHEL. The decision of BHEL engineer is final on the above. The amount will be deducted from running bills of the contractor. The amount collected above will be utilized for giving award to the employees who could avoid accident by following safety rules. Also the amount will be spent for purchasing the safety appliances and supporting the safety activity at site.</p>		
9.61	<p><u>CITATION:</u>-If safety record of the contractor in execution of the awarded job is to the satisfaction of safety department of BHEL, issue of an appropriate certificate to recognize the safety performance of the contractor may be considered by BHEL after completion of the job</p>		
9.62	<p><u>MEMORANDUM OF UNDERSTANDING</u> After Award Of Work, Contractors Are Required To Enter Into A Memorandum Of Understanding As Given Below:</p> <p style="text-align: center;"><u>Memorandum of Understanding</u></p> <p>➤ BHEL, Power Sector _____ Region is committed to Health, Safety and Environment Policy (EHS Policy).</p>		

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE & OHSAS

- M/s _____ do hereby also commit to the same EHS Policy while executing the Contract Number _____
- M/s _____ shall ensure that safe work practices not limited to the above are followed by all construction workers and supervisors. Spirit and content therein shall be reached to all workers and supervisors for compliance.
- BHEL will be carrying out EHS audits twice a year and M/s _____ shall ensure to close any non-conformity observed/reported within fifteen days.

Signed by authorized representative of M/s -----

Name :

Place & Date:

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-X: RA Bill Payments

10.0	RA Bill Payments
10.1	The contractor shall submit his monthly RA bills with all the details required by BHEL on specified date every month covering progress of work in all respects and areas for the previous calendar month.
10.2	Mode of payment and measurement of work completed shall be as per relevant clauses of General Conditions of Contract
10.3	Release of payment in each running bill including PVC Bills will be restricted to 95% of the value of work admitted as per stages of progressive pro rata payments.
10.4	The 5% thus remaining shall be treated as 'Retention Amount' and shall be released as per terms specified in the General Conditions of Contract.
10.5	The payment for running bills will normally be released within 30 days of submission of running bill complete in all respects with all documents. It is the responsibility of the contractor to make his own arrangements for making timely payments towards labour wages, statutory payments, outstanding dues etc and other dues in the meanwhile.
10.6	BHEL shall release payment through Electronic Fund Transfer (EFT)/RTGS. In order to implement this system, Contractor to furnish details pertaining to his Bank Accounts where proceeds will be transferred through BHEL's banker, as per prescribed formats: Note: BHEL may also choose to release payment by other alternative modes as applicable
10.7	Paying Authority shall be the Construction Manager of the Site. Any change in the paying Authority shall be intimated to the Contactor accordingly.

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-XI : Performance Monitoring

11.0	Performance Monitoring										
11.1	Performance of the contractor is monitored through various reports/reviews and shall be jointly evaluated every quarter as per prescribed formats. Based on the net weighted score obtained, Contractors shall be rated 'Good' or 'Satisfactory' or 'Unsatisfactory'										
11.2	Annual performance (Financial Year wise) and Over all Performance (for the Contract) shall be based on the averages of Quarterly net weighted scores.										
11.3	<p>In case Annual/Quarterly performance is found 'Unsatisfactory', BHEL reserves the right to put on hold such Contractors as given below:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Sl No</th> <th style="width: 60%;">Performance status</th> <th style="width: 30%;">Type of suspension</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>'Unsatisfactory' in the Annual performance in the last Financial Year (if the agency is executing only one job in the Region)</td> <td>Hold for a period of six months for similar Work</td> </tr> <tr> <td style="text-align: center;">2</td> <td>'Unsatisfactory' in the Annual performance in the last Financial Year or in the 'Overall' Performances, for 2 or more Works/Contracts being executed by the Contractor in the Region</td> <td>Hold for a period of six months for similar Works for which performance is 'Unsatisfactory'.</td> </tr> </tbody> </table> <p>Note: If there is any conflict between the "Overall" performance and the latest "Annual" performance, then the 'Overall' performance shall prevail. However, BHEL reserves the right on the decision of 'Hold', in case of consistent 'Annual' improvement notwithstanding the vendors 'Overall' performance being unsatisfactory.</p>		Sl No	Performance status	Type of suspension	1	'Unsatisfactory' in the Annual performance in the last Financial Year (if the agency is executing only one job in the Region)	Hold for a period of six months for similar Work	2	'Unsatisfactory' in the Annual performance in the last Financial Year or in the 'Overall' Performances, for 2 or more Works/Contracts being executed by the Contractor in the Region	Hold for a period of six months for similar Works for which performance is 'Unsatisfactory'.
Sl No	Performance status	Type of suspension									
1	'Unsatisfactory' in the Annual performance in the last Financial Year (if the agency is executing only one job in the Region)	Hold for a period of six months for similar Work									
2	'Unsatisfactory' in the Annual performance in the last Financial Year or in the 'Overall' Performances, for 2 or more Works/Contracts being executed by the Contractor in the Region	Hold for a period of six months for similar Works for which performance is 'Unsatisfactory'.									

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-XII: Suspension of Business Dealings

12.0	Suspension of Business dealings
12.1	BHEL reserves the right to take action against contractors who fail to perform or indulge in malpractices, by suspending business dealings with them.
12.2	Suspension could be in the form of 'Hold', 'De-listing' or 'Banning' a contractor.
12.3	<p>A bidder may be put on HOLD for a period of 6 months, for future tenders for specific works on the basis of one or more of the following reasons:</p> <ul style="list-style-type: none"> a) Bidder does not honour his own offer or any of its conditions within the validity period. b) Bidder fails to respond against three consecutive enquires of BHEL. c) After placement of order, Bidder fails to execute a contract. d) Bidder fails to settle sundry debt account, for which he is legitimately liable, within one year of its occurrence. e) Bidder's performance rating falls below 60% in specific category (more fully described in chapter 'Performance Monitoring') f) Bidder works are under strike/ lockout for a long period.
12.4	<p>A Bidder may be de-listed from the list of registered Bidders of the region for a period of 1 year on the basis of one or more of the following reasons:-</p> <ul style="list-style-type: none"> a) Bidder tampers with tendering procedure affecting ordering process or commits any misconduct which is contrary to business ethics. b) Bidder has substituted, damaged, failed to return, short returned or unauthorizedly disposed off materials/ documents/ drawings/ tools etc of BHEL. c) Bidder no longer has the technical staff, equipment, financial resources etc. required to execute the orders/ contracts.
12.5	<p>A Bidder can be banned from doing any business with all Units of BHEL for a period of 3 years on the basis of one or more of the following reasons:</p> <ul style="list-style-type: none"> a) Bidder is found to be responsible for submitting fake/ false/ forged documents, certificates, or information prejudicial to BHEL's interest. b) In spite of warnings, the Bidder persistently violates or circumvents the provisions of labour laws/ regulations/ rules and other statutory requirements. c) Bidder is found to be involved in cartel formation

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-XII: Suspension of Business Dealings

	<p>d) The Bidder has indulged in malpractices or misconduct such as bribery, corruption and fraud, pilferage etc which are contrary to business ethics.</p> <p>e) The Bidder is found guilty by any court of law for criminal activity/offences involving moral turpitude in relation to business dealings.</p> <p>f) The Bidder is declared bankrupt, insolvent, has wound up or been dissolved; i.e ceases to exist for all practical purposes.</p> <p>g) Bidder is found to have obtained Official Company information/documentation by questionable means.</p> <p>h) Communication is received from the administrative Ministry of BHEL to ban the Bidder from business dealings.</p>
12.6	Contracts already entered with a contractor before the date of issue of order of 'HOLD' or 'DE-LISTING' shall not be affected.
12.7	All existing contracts with a 'BANNED' contractor shall normally be short closed
12.8	Once the order for suspension is passed, existing offers/new offers of the contractor shall not be entertained
12.9	The above guidelines are not exhaustive but enunciate broad principles governing action against contractors

TENDER - SPECIFICATIONS

VOLUME- IC (GCC)



Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301(INDIA)

General Conditions of Contract

(Common for Power Sector Regions)

2010

TABLE OF CONTENTS

1. Chapter-1 : General Instructions to Tenderers

- 1.1. Despatch Instructions
- 1.2. Submission of Tenders
- 1.3. Language
- 1.4. Price Discrepancy
- 1.5. Qualification of Tenderers
- 1.6. Evaluation of Bids
- 1.7. Data to be enclosed
- 1.8. Authorisation and Attestation
- 1.9. Earnest Money Deposit
- 1.10. Security Deposit
- 1.11. Return of Security Deposit
- 1.12. Bank Guarantee
- 1.13. Validity of offer
- 1.14. Execution of Contract Agreement
- 1.15. Rejection of Tender and other Conditions

2. Chapter-2

- 2.1. Definitions
- 2.2. Law Governing Contract and Court Jurisdiction
- 2.3. Issue of Notice
- 2.4. Use of land

- 2.5. Commencement of Work
- 2.6. Measurement of Work and Mode of Payment
- 2.7. Rights of BHEL
- 2.8. Responsibilities of Contractor in respect of Local Laws, Employment of Workers etc
- 2.9. Progress Monitoring, Monthly Review and Performance Evaluation
- 2.10. Time of Completion
- 2.11. Extension of Time for Completion
- 2.12. Over Run Compensation
- 2.13. Interest Bearing Recoverable Advances
- 2.14. Quantity Variation
- 2.15. Extra Works
- 2.16. Supplementary Items
- 2.17. Price Variation Clause
- 2.18. Insurance
- 2.19. Strikes & Lockout
- 2.20. Force Majeure
- 2.21. Arbitration and Reconciliation
- 2.22. Retention Amount
- 2.23. Payments
- 2.24. Performance Guarantee for Workmanship
- 2.25. Closing of Contracts
- 2.26. Reverse Auction
- 2.27. Suspension of Business Dealings
- 2.28. Other Issues
- 2.29. Interpretations/Clarifications and Revisions

CHAPTER -1

1. GENERAL INSTRUCTION TO TENDERERS

1.1. DESPATCH INSTRUCTION

- i) The General Conditions of Contract form part of the Tender specifications. **All pages of the tender documents shall be duly signed, stamped and submitted along with the offer in token of complete acceptance thereof.** The information furnished shall be complete by itself. The tenderer is required to furnish all the details and other documents as required in the following pages
- ii) Tenderers are advised to study all the tender documents carefully. Any submission of tender by the tenderer shall be deemed to have been done after careful study and examination of the tender documents and with the full understanding of the implications thereof. Should the tenderers have any doubt about the meaning of any portion of the Tender Specification or find discrepancies or omissions in the drawings or the tender documents issued are incomplete or shall require clarification on any of the technical aspect, the scope of work etc., he shall at once, contact the authority inviting the tender well in time (so as not to affect last date of submission) for clarification before the submission of the tender. Tenderer's request for clarifications shall be with reference to Sections and Clause numbers given in the tender documents. The specifications and terms and conditions shall be deemed to have been accepted by the tenderer in his offer. Non compliance with any of the requirements and instructions of the tender enquiry may result in the rejection of the tender.
- iii) Integrity pact (IP) shall be applicable for all tenders / contracts if indicated in NIT. This integrity pact shall be issued as part of the Tender documents and shall be returned by the bidder along with Techno-commercial bid duly filled, signed and stamped by the authorized signatory who signs the bid. Only those vendors / bidders who have entered into such an IP with BHEL shall be considered qualified to participate in the bidding. Entering into this pact shall be a preliminary qualification.

1.2. SUBMISSION OF TENDERS

- 1.2.1 The tenderers must submit their tenders to Officer inviting tender as per instructions in the NIT
- 1.2.2 Tenders submitted by post shall be sent by 'REGISTERED POST ACKNOWLEDGEMENT DUE / by COURIER' and shall be posted with due allowance for any postal/courier delays. BHEL takes no responsibility for delay, loss or non-receipt of tenders sent by post/courier. **The tenders received after the specified time of their submission are treated as 'Late Tenders' and shall not be considered under any circumstances.** Offers received by Fax/Email/Internet shall be considered as per terms of NIT.
- 1.2.3 Tenders shall be opened by authorised Officer of BHEL at his office at the time and date as specified in the NIT, in the presence of such of those tenderers or their authorised representatives who may be present

- 1.2.4 Tenderers whose bids are found techno commercially qualified shall be informed the date and time of opening of the Price Bids and such Tenderers may depute their representatives to witness the opening of the price bids. BHEL's decision in this regard shall be final and binding.
- 1.2.5 Before submission of Offer, the tenderers are advised to inspect the site of work and the environments and be well acquainted with the actual working and other prevalent conditions, facilities available, position of material and labour, means of transport and access to Site, accommodation, etc. No claim will be entertained later on the grounds of lack of knowledge of any of these conditions.
- 1.3. LANGUAGE**
- 1.3.1 The tenderer shall quote the rates in English language and international numerals. These rates shall be entered in figures as well as in words. For the purpose of the tenders, the metric system of units shall be used.
- 1.3.2 All entries in the tender shall either be typed or written legibly in ink. Erasing and over-writing is not permitted and may render such tenders liable for rejection. All cancellations and insertions shall be duly attested by the tenderer.
- 1.4 PRICE DISCREPANCY:**
- 1.4.1 **Conventional (Manual) Price Bid opening :** In the case of price bid opening without resorting to Reverse Auction, if there are differences between the rates given by the tenderer in words and figures or in amount worked out by him, the following procedure for evaluation and award shall be followed:
- i) When there is a difference between the rates in figures and in words, the rates which corresponds to the amounts worked out by the contractor, shall be taken as correct
 - ii) When the amount of an item is not worked out by the contractor or it does not correspond with the rate written either in figure or in words, then the rate quoted by the contractor in words shall be taken as correct
 - iii) When the rate quoted by the contractor in figures and words tallies but the amount is not worked out correctly, the rate quoted by the contractor shall be taken as correct and not the amount.
 - iv) In case of lumpsum price, if there is any difference between the amount in figures and in words, the amount quoted by the bidder in words shall be taken as correct.
 - v) In case of omission in quoting any rate for one or more items, the evaluation shall be done considering the highest quoted rate obtained against the respective items by other tenderers for the subject tender. If the tenderer becomes L-1, the notional rates for the omission items shall be the lowest rates quoted for the respective items by the other tenderers against the respective omission items for the subject job and the 'Total quoted price (loaded for omissions)' shall be arrived at. However the overall price remaining the same as quoted originally, the rates for all the items in the 'Total quoted price (loaded for omissions)' shall be reduced item wise in proportion to the ratio of 'Original' total price and the 'Total quoted price (loaded for omissions)'".
- 1.4.2 **Reverse Auction:** In case of Reverse Auction, the successful bidder shall undertake to execute the work as per overall price offered by him during the Reverse Auction process. In case of omission of rates, the procedure shall be as per 'Guidelines for Reverse Auction' enclosed.
- 1.5. QUALIFICATION OF TENDERERS**
- i) Only tenderers who have previous experience in the work of the nature and description detailed in the Notice Inviting Tender and/or tender specification are expected to quote for this work duly detailing their experience along with offer.

- ii) Offers from tenderers who do not have proven and established experience in the field shall not be considered
- iii) Offers from tenderers who are under suspension (banned) by any Unit/Region/Division of BHEL shall not be considered.
- iv) Offers from tenderers who do not comply with the latest guidelines of Ministry/Commissions of Govt of India shall not be considered.

1.6. EVALUATION OF BIDS

- i) Technical Bids submitted by the tenderer will be opened first and evaluated for fulfilling the Pre Qualification criteria and other conditions in NIT/Tender documents, based on documentary evidences submitted along with the offer
- ii) In case the same qualifying experience is claimed by more than one agency, then the agency who has executed the work as per documentary evidence submitted shall only be qualified. Scope of qualifying work should be totally with the agency who has executed and in case it is only labour+consumables without T&P, then the responsibility of execution is assigned to the first agency and not to the agency who has executed only as labour supply contractor. Further, BHEL reserves the right to ask for further proofs including submission of TDS certificates for the said job
- iii) In case the qualifying experience is claimed by private organizations based on Work Order and completion certificates from another private organization, BHEL reserves the right to ask for further proofs including submission of TDS certificates for the said job
- iv) Assessing Bidder Capacity for executing the current tender shall be as per Notice Inviting Tender
- v) Price Bids of shortlisted bidders shall only be opened either through the conventional price bid opening or through electronic Reverse Auction, at the discretion of BHEL
- vi) Price Bids of unqualified bidders shall not be opened. Reasons for rejection shall be intimated in due course after issue of LOI/LOA to successful bidder and receipt of unqualified acceptance from the successful bidder
- vii) Bidders are advised to also refer to clause no 2.9.4 regarding evaluation of their performance in ongoing projects for the current tender

1.7. DATA TO BE ENCLOSED

Full information shall be given by the tenderer in respect of the following. Non-submission of this information may lead to rejection of the offer.

- i) **INCOME TAX PERMANENT ACCOUNT NUMBER**
Certified copies of Permanent Account Numbers as allotted by Income Tax Department for the Company/Firm/Lead Partners of JV, etc. shall be furnished along with tender. **Not Applicable for Foreign parties.**
- ii) **ORGANIZATION CHART**
The organization chart of the tenderer's organization, including the names, addresses and contact information of the Directors/Partners shall be furnished along with the offer.
- iii) An attested copy of the Power of Attorney, in case the tender is signed by an individual other than the sole proprietor
- iv) **IN CASE OF INDIVIDUAL TENDERER:**
His / her full name, address and place & nature of business.

v) **IN CASE OF PARTNERSHIP FIRM**

The names of all the partners and their addresses, A copy of the partnership deed/instrument of partnership duly certified by the Notary Public shall be enclosed.

vi) **IN CASE OF COMPANIES:**

- a. Date and place of registration including date of commencement certificate in case of Public Companies (certified copies of Memorandum and articles of Association are also to be furnished).
- b. Nature of business carried on by the Company and the provisions of the Memorandum relating thereof.

1.8 **AUTHORISATION AND ATTESTATION**

Tenders shall be signed by a person duly authorized/empowered to do so. An attested copy of Power of Attorney/Authority letter in company's letter head, in case the tender is signed by an individual other than the sole proprietor shall be submitted along with the tenders.

1.9 **EARNEST MONEY DEPOSIT: NOT APPLICABLE.**

1.10 **SECURITY DEPOSIT**

1.10.1 **Upon acceptance of Tender, the successful Tenderer should deposit the amount equal to 2% of Contract Value as Security Deposit for satisfactory completion of work. SD shall be in US\$.**

1.10.2 The security Deposit should be furnished before start of the work by the contractor.

1.10.3 Security Deposit may be furnished in any one of the following forms

- i) Cash (as permissible under the Income Tax Act)
- ii) Pay Order / Demand Draft in favour of BHEL.
- iii) Local cheques of scheduled banks, subject to realization.
- iv) Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc. (Certificates should be held in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back).
- v) Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format for Security Deposit shall be in the prescribed formats
- vi) Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
- vii) Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be deposited in any form as prescribed before start of the work and the balance 50% may be recovered from the running bills.
- viii) EMD of the successful bidder can be converted and adjusted against the cash portion of Security Deposit excepting for such bidders who have remitted One Time EMD.

NOTE: Acceptance of Security Deposit against Sl. No. (iv) and (vi) above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

1.10.4 The Security Deposit shall not carry any interest.

1.10.5 In case the value of work exceeds / reduces from the awarded / accepted value, the Security Deposit shall be correspondingly enhanced / reduced as given below:

- i) The enhanced part of the Security Deposit shall be immediately deposited by the Contractor or adjusted against payments due to the Contractor.
 - ii) There will be no reduction in Security Deposit value in case of variation in contract value upto the lower limit specified in Quantity variation clause. In case of reduction of contract value beyond the lower limit specified in Quantity Variation clause, then the Security Deposit shall be re adjusted in proportion.
 - iii) In case of reduction, the reduced Contract value shall be certified by BHEL Construction Manager after ascertaining / freezing of BOQ / Drawings from the Design / Engineering Centre. The reduced Security Deposit value can only be considered after taking into account the adequacy of the securities held by BHEL to meet the liabilities of the contractor for the contract, and the performance of the contract in general. **In such cases, the revised value of Security Deposit shall be worked out only after execution of not less than the lower limit of the revised scope of work/contract value as per quantity variation clause, and as certified by Construction Manager. This reduction in value of Security Deposit shall not entitle the contractor to any amendment of Contract and shall be operated at the discretion of BHEL.**
 - iv) Contract value for the purpose of operating the reduced/increased value of Security Deposit due to Quantity Variation, shall be exclusive of Price Variation Clause, Over Run Compensation and Extra works done on manday rates.
- 1.10.6 The validity of Bank Guarantees towards Security Deposit shall be initially upto the completion period as stipulated in the Letter of Intent/Award + 3 months, and the same shall be kept valid by proper renewal till the acceptance of Final Bills of the Contractor, by BHEL
- 1.10.7 BHEL reserves the right of forfeiture of Security Deposit in addition to other claims and penalties in the event of the Contractor's failure to fulfill any of the contractual obligations or in the event of termination of contract as per terms and conditions of contract. BHEL reserves the right to set off the Security Deposit against any claims of other contracts with BHEL.
- 1.11 **RETURN OF SECURITY DEPOSIT**
- Security Deposit shall be refunded/Bank Guarantee(s) released to the Contractor along with the 'Final Bill' after deducting all expenses / other amounts due to BHEL under the contract / other contracts entered into with them by BHEL.
- 1.12 **BANK GUARANTEES**
- Where ever Bank Guarantees are to be furnished/submitted by the contractor, the following shall be complied with
- i) Bank Guarantees shall be from Scheduled Banks / Public Financial Institutions as defined in the Companies Act.
 - ii) The Bank Guarantees shall be as per prescribed formats.
 - iii) It is the responsibility of the bidder to get the Bank Guarantees revalidated/extended for the required period (subject to a minimum period of six months), as per the advice of BHEL Site Engineer / Construction Manager. BHEL shall not be liable for issue of any reminders regarding expiry of the Bank Guarantees.
 - iv) In case extension/further extensions of any Bank Guarantees are not required, the bidders shall ensure that the same is explicitly endorsed by the Construction Manager and submitted to the Regional HQ issuing the LOI/LOA.

- v) In case the Bank Guarantees are not extended before the expiry date, BHEL reserves the right to invoke the same by informing the concerned Bank in writing, without any advance notice/communication to the concerned bidder.
- vi) Bidders to note that any corrections to Bank Guarantees shall be done by the issuing Bank, only through an amendment in an appropriate non judicial stamp paper.
- vii) The Original Bank Guarantee shall be sent directly by the Bank to BHEL under Registered Post (Acknowledgement Due), addressed to the Subcontracting Department of the respective Region.

1.13 VALIDITY OF OFFER

The rates in the Tender shall be kept open for acceptance for a minimum period of **SIX MONTHS** from latest due date of offer submission (including extension, if any) . In case BHEL (Bharat Heavy Electricals Ltd) calls for negotiations, such negotiations shall not amount to cancellation or withdrawal of the original offer which shall be binding on the tenderers.

1.14 EXECUTION OF CONTRACT AGREEMENT

The successful tenderer's responsibility under this contract commences from the date of issue of the Letter of Intent by Bharat Heavy Electricals Limited. The Tenderer shall submit an unqualified acceptance to the Letter of Intent/Award within the period stipulated therein.

The successful tenderer shall be required to execute an agreement in the prescribed form, with BHEL, within a reasonable time after the acceptance of the Letter of Intent/Award, and in any case before releasing the first running bill. The contract agreement shall be signed by a person duly authorized/empowered by the tenderer. The expenses for preparation of agreement document shall be borne by BHEL

1.15 REJECTION OF TENDER AND OTHER CONDITIONS

- 1.15.1 The acceptance of tender will rest with BHEL which does not bind itself to accept the lowest tender or any tender and reserves to itself full rights for the following without assigning any reasons whatsoever:-
 - a. To reject any or all of the tenders.
 - b. To split up the work amongst two or more tenderers as per NIT
 - c. To award the work in part if specified in NIT
 - d. In case of either of the contingencies stated in (b) and (c) above, the time for completion as stipulated in the tender shall be applicable.
- 1.15.2 Conditional tenders, unsolicited tenders, tenders which are incomplete or not in the form specified or defective or have been materially altered or not in accordance with the tender conditions, specifications etc., are liable to be rejected.
- 1.15.3 Tenders are liable to be rejected in case of unsatisfactory performance of the tenderer with BHEL, or tenderer under suspension (hold/banning /delisted) by any unit / region / division of BHEL or tenderers who do not comply with the latest guidelines of Ministry/Commissions of Govt of India. BHEL reserves the right to reject a bidder in case it is observed that they are overloaded and may not be in a position to execute this job as per the required schedule in line

with clause no. 9.0 of the 'NIT'. The decision of BHEL will be final in this regard.

- 1.15.4 If a tenderer who is a proprietor expires after the submission of his tender or after the acceptance of his tender, BHEL may at their discretion, cancel such tender. If a partner of a firm expires after the submission of tender or after the acceptance of the tender, BHEL may then cancel such tender at their discretion, unless the firm retains its character.
- 1.15.5 BHEL will not be bound by any Power of Attorney granted by changes in the composition of the firm made subsequent to the execution of the contract. They may, however, recognise such power of Attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor concerned.
- 1.15.6 If the tenderer deliberately gives wrong information in his tender, BHEL reserves the right to reject such tender at any stage or to cancel the contract if awarded and forfeit the Earnest Money/Security Deposit/any other money due.
- 1.15.7 Canvassing in any form in connection with the tenders submitted by the Tenderer shall make his offer liable to rejection.
- 1.15.8 In case the Proprietor, Partner or Director of the Company/Firm submitting the Tender, has any relative or relation employed in BHEL, the authority inviting the Tender shall be informed of the fact as per specified format, along with the Offer. Failing to do so, BHEL may, at its sole discretion, reject the tender or cancel the contract and forfeit the Earnest Money/Security Deposit.
- 1.15.9 The successful tenderer should not sub-contract part or complete work detailed in the tender specification undertaken by him without written permission of BHEL's Construction Manager/Site Incharge. The tenderer is solely responsible to BHEL for the work awarded to him.
- 1.15.10 The Tender submitted by a techno commercially qualified tenderer shall become the property of BHEL who shall be under no obligation to return the same to the bidder. However unopened price bids and late tenders shall be returned to the bidders
- 1.15.11 Unsolicited discount received after the due date and time of Bid Submission shall not be considered for evaluation. However, if the party who has submitted the unsolicited discount/rebate becomes the L-I party, then the awarded price i.e contract value shall be worked out after considering the discount so offered.
- 1.15.12 BHEL shall not be liable for any expenses incurred by the bidder in the preparation of the tender irrespective of whether the tender is accepted or not.

CHAPTER-2

2.1 **DEFINITION:** The following terms shall have the meaning hereby assigned to them except where the context otherwise requires

- i) BHEL shall mean Bharat Heavy Electricals Limited (of the respective Power Sector Region inviting the Tender), a company registered under Indian Companies Act 1956, with its Registered Office at BHEL HOUSE, SIRI FORT, NEW DELHI – 110 049, or its Power Sector Regional Offices or its Authorised Officers or its Site Engineers or other employees authorised to deal with any matters with which these persons are concerned on its behalf.
- ii) "EXECUTIVE DIRECTOR" or 'GROUP GENERAL MANAGER' or "GENERAL MANAGER (Incharge)" or "GENERAL MANAGER" shall mean the Officer in Administrative charge of the respective Power Sector Region.
- iii) "COMPETENT AUTHORITY" shall mean Executive Director or Group General Manager or General Manager (Incharge) or General Manager or BHEL Officers who are empowered to act on behalf of the Executive Director or General Manager (Incharge) or General Manager of BHEL.
- iv) "ENGINEER" or "ENGINEER IN CHARGE" shall mean an Officer of BHEL as may be duly appointed and authorized by BHEL to act as "Engineer" on his behalf for the purpose of the Contract, to perform the duty set forth in this General Conditions of Contract and other Contract documents. The term also includes 'CONSTRUCTION MANAGER' or 'SITE INCHARGE' as well as Officers at Site or at the Headquarters of the respective Power Sector Regions.
- v) "SITE" shall mean the places or place at which the plants/equipments are to be erected and services are to be performed as per the specification of this Tender.
- vi) "CLIENT OF BHEL" or "CUSTOMER" shall mean the project authorities with whom BHEL has entered into a contract for supply of equipments or provision of services.
- vii) "CONTRACTOR" shall mean the successful Bidder/Tenderer who is awarded the Contract and shall include the Contractor's successors, heirs, executors, administrators and permitted assigns.
- viii) "CONTRACT" or "CONTRACT DOCUMENT" shall mean and include the Agreement of Work Order, the accepted appendices of Rates, Schedules, Quantities if any, General Conditions of Contract, Special Conditions of Contract, Instructions to the Tenderers, Drawings, Technical Specifications, the Special Specifications if any, the Tender documents, subsequent amendments mutually agreed upon and the Letter of Intent/Acceptance issued by BHEL. Any conditions or terms stipulated by the contractor in the tender documents or subsequent letters shall not form part of the contract unless, specifically accepted in writing by BHEL in the Letter of Intent/Award and incorporated in the agreement.
- ix) "GENERAL CONDITIONS OF CONTRACT" shall mean the 'Instructions to Tenderers' and 'General Conditions of Contract' pertaining to the work for which above tenders have been called for.
- x) "TENDER SPECIFICATION" or "TENDER" or "TENDER DOCUMENTS" shall mean General Conditions, Common Conditions, Special Conditions, Price Bid, Rate Schedule, Technical

	Specifications, Appendices, Annexures, Corrigendums, Amendments, Forms, procedures, Site information, etc and drawings/documents pertaining to the work for which the tenderers are required to submit their offers. Individual specification number will be assigned to each Tender Specification.
xi)	"LETTER OF INTENT" shall mean the intimation by a Letter/Fax/email to the tenderer that the tender has been accepted in accordance with provisions contained in the letter. The responsibility of the contractor commences from the date of issue of this letter and all terms and conditions of the contract are applicable from this date.
xii)	"COMPLETION TIME" shall mean the period by 'date/month' specified in the 'Letter of Intent/Award' or date mutually agreed upon for handing over of the intended scope of work, the erected equipment/plant which are found acceptable by the Engineer, being of required standard and conforming to the specifications of the Contract.
xiii)	"PLANT" shall mean and connote the entire assembly of the plant and equipments covered by the contract.
xiv)	"EQUIPMENT" shall mean equipment, machineries, materials, structural, electricals and other components of the plant covered by the contract.
xv)	"TESTS" shall mean and include such test or tests to be carried out on the part of the contractor as are prescribed in the contract or considered necessary by BHEL, in order to ascertain the quality, workmanship, performance and efficiency of the contractor or part thereof.
xvi)	"APPROVED", "DIRECTED" or "INSTRUCTED" shall mean approved, directed or instructed by BHEL.
xvii)	"WORK or CONTRACT WORK" shall mean and include supply of all categories of labour, specified consumables, tools and tackles and Plants required for complete and satisfactory site transportation, handling, stacking, storing, erecting, testing and commissioning of the equipments to the entire satisfaction of BHEL.
xviii)	"SINGULAR AND PLURALS ETC" words carrying singular number shall also include plural and vice versa, where the context so requires. Words imparting the masculine Gender shall be taken to include the feminine Gender and words imparting persons shall include any Company or Associations or Body of Individuals, whether incorporated or not.
xix)	"HEADING" – The heading in these General Conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken as instructions thereof or of the contract.
xx)	"MONTH" shall mean calendar month unless otherwise specified in the Tender.
xxi)	Day' or 'Days' unless herein otherwise expressly defined shall mean calendar day or days of twenty four (24) hours each. A week shall mean continuous period of seven (7) days.
xxii)	"COMMISSIONING" shall mean the synchronisation testing and achieving functional operation of the Equipment with associated system after all initial adjustments, trials, cleaning, re-assembly required at site if any, have been completed and Equipment with associated system is

	ready for taking into service.
xxiii)	"WRITING" shall include any manuscript type written or hand written or printed statement or electronically transmitted messages, under the signature or seal or transmittal of BHEL.
xxiv)	"TEMPORARY WORK" shall mean all temporary works for every kind required in or for the execution, completion, maintenance of the work.
xxv)	'CONTRACT PRICE' or 'CONTRACT VALUE' shall mean the sum mentioned in the LOI/LOA/Contract Agreement subject to such additions thereto or deductions there from as may be made under provisions hereinafter contained
xxvi)	"COMMENCEMENT DATE" or "START DATE" shall mean the commencement/start of work at Site as per terms defined in the Tenderl
xxvii)	"SHORT CLOSING" or "FORE CLOSING" of Contract shall mean the premature closing of Contract, for reasons not attributable to the contractor and mutually agreed between BHEL and the contractor
xxviii)	"TERMINATION" of Contract shall mean the pre mature closing of contract due to reasons as mentioned in the contract
xxix)	"DE MOBILISATION" shall mean the temporary winding up of Site establishment by Contractor leading to suspension of works temporarily for reasons not attributable to the contractor
xxx)	"RE MOBILISATION" shall mean the resumption of work with all resources required for the work after demobilization.
2.2	<p style="text-align: center;">LAW GOVERNING THE CONTRACT AND COURT JURISDICTION</p> <p>The contract shall be governed by the Law for the time being in force in the Republic of India. The Civil Court having original Civil Jurisdiction at Delhi for PSNR, at Kolkata for PSER, at Nagpur for PSWR and at Chennai for PSSR, shall alone have exclusive jurisdiction in regard to all claims in respect of the Contract. No other Civil Court shall have jurisdiction in case of any dispute, under this contract</p>
2.3	<p style="text-align: center;">ISSUE OF NOTICE</p> <p>2.3.1 <u>Service of notice on contractor</u> Any notice to be given to the Contractor under the terms of the contract shall be served by sending the same by Registered Post / Speed Post to or leaving the same at the Contractor's last known address of the principal place of business (or in the event of the contractor being a company, to or at its Registered Office). In case of change of address, the notice shall be served at changed address as notified in writing by the Contractor to BHEL. Such posting or leaving of the notice shall be deemed to be good service of such notice and the time mentioned to the condition for doing any act after notice shall be reckoned from the date so mentioned in such notice.</p> <p>2.3.2 <u>Service of notice on BHEL</u> Any notice to be given to BHEL in-charge/Region under the terms of the Contract shall be served by sending the same by post to or leaving the same at BHEL address or changed address as notified in writing by BHEL to the Contractor.</p>
2.4	<p style="text-align: center;">USE OF LAND</p> <p>No land belonging to BHEL or their Customer under temporary possession of BHEL shall be occupied by the contractor without written permission of BHEL.</p>

2.5 COMMENCEMENT OF WORK

- 2.5.1 The contractor shall commence the work as per the time indicated in the Letter of Intent from BHEL and shall proceed with the same with due expedition without delay.
- 2.5.2 If the contractor fails to start the work within stipulated time as per LOI or as intimated by BHEL, then BHEL at its sole discretion will have the right to cancel the contract. The Earnest Money and/or Security Deposit with BHEL will stand forfeited without any further reference to him without prejudice to any and all of BHEL's other rights and remedies in this regard.
- 2.5.3 All the work shall be carried out under the direction and to the satisfaction of BHEL.

2.6 MEASUREMENT OF WORK AND MODE OF PAYMENT:

- 2.6.1 All payments due to the contractors shall be made by e mode only, unless otherwise found operationally difficult for reasons to be recorded in writing
- 2.6.2 For progress running bill payments: - The Contractor shall present detailed measurement sheets in triplicate, duly indicating all relevant details based on technical documents and connected drawings for work done during the month/period under various categories in line with terms of payment as per contract. The basis of arriving at the quantities, weights shall be relevant documents and drawings released by BHEL. These measurement sheets shall be prepared jointly with BHEL Engineers and signed by both the parties.
- 2.6.3 These measurement sheets will be checked by BHEL Engineer and quantities and percentage eligible for payment under various groups shall be decided by BHEL Engineer. The abstract of quantities and percentage so arrived at based on the terms of payment shall be entered in Measurement Book and signed by both the parties.
- 2.6.4 Based on the above quantities, contractor shall prepare the bills in prescribed format and work out the financial value. These will be entered in Measurement Book and signed by both the parties. Payment shall be made by BHEL after effecting the recoveries due from the contractor.
- 2.6.5 All recoveries due from the contractor for the month/period shall be effected in full from the corresponding running bills unless specific approval from the competent authorities is obtained to the contrary.
- 2.6.6 Measurement shall be restricted to that portion of work for which it is required to ascertain the financial liability of BHEL under this contract.
- 2.6.7 The measurement shall be taken jointly by persons duly authorized on the part of BHEL and by the Contractor.
- 2.6.8 The Contractor shall bear the expenditure involved if any, in making the measurements and testing of materials to be used/used in the work. The contractor shall, without extra charges, provide all the assistance with appliances and other things necessary for measurement.
- 2.6.9 If at any time due to any reason whatsoever, it becomes necessary to re-measure the work done in full or in part, the expenses towards such re measurements shall be borne by the contractor unless such re measurements are warranted solely for reasons not attributable to contractor.

- 2.6.10 Passing of bills covered by such measurements does not amount to acceptance of the completion of the work measured. Any left out work has to be completed, if pointed out at a later date by BHEL.
- 2.6.11 Final measurement bill shall be prepared in the final bill format prescribed for the purpose based on the certificate issued by BHEL Engineer that entire works as stipulated in tender specification has been completed in all respects to the entire satisfaction of BHEL. Contractor shall give unqualified "No Claim" Certificate. All the tools and tackles loaned to him should be returned in satisfactory condition to BHEL. The abstract of final quantities and financial values shall also be entered in the Measurement Books and signed by both parties to the contract. The Final Bill shall be prepared and paid within a reasonable time after completion of work.
- 2.7 RIGHTS OF BHEL**
BHEL reserves the following rights in respect of this contract during the original contract period or its extensions if any, as per the provisions of the contract, without entitling the contractor for any compensation.
- 2.7.1 To withdraw any portion of work and/or to restrict/alter quantum of work as indicated in the contract during the progress of work and get it done through other agencies to suit BHEL's commitment to its customer or in case BHEL decides to advance the date of completion due to other emergent reasons/ BHEL's obligation to its customer.
- 2.7.2 To terminate the contract or get any part of the work done through other agency or deploy BHEL's own/hired/otherwise arranged resources , at the risk and cost of the contractor after due notice of a period of two weeks by BHEL, in the event of:-
- i) Contractor's continued poor progress
 - ii) Withdrawal from or abandonment of the work before completion of the work
 - iii) Contractor's inability to progress the work for completion as stipulated in the contract
 - iv) Poor quality of work
 - v) Corrupt act of Contractor
 - vi) Insolvency of the Contractor
 - vii) Persistent disregard to the instructions of BHEL
 - viii) Assignment, transfer, sub-letting of contract without BHEL's written permission
 - ix) Non fulfillment of any contractual obligations
 - x) In the opinion of BHEL, the contractor is overloaded and is not in a position to execute the job as per required schedule
- 2.7.3 To meet the expenses including BHEL overheads of 30% & Liquidated damage/penalties arising out of "Risk & Cost" as explained above under Sl.No. 2.7.2. BHEL shall recover the amount from any money due from Contractor, from any money due to the Contractor including Security Deposit or by forfeiting any T&P or material of the contractor under this contract or any other contract of BHEL or by any other means or any combination thereof
- 2.7.4 To terminate the contract or to restrict the quantum of work and pay for the portion of work executed in case BHEL's contract with their customer are terminated for any reason, as per mutual agreement.
- 2.7.5 To effect recovery from any amounts due to the contractor under this or any other contract or in any other form, the moneys BHEL is statutorily forced to pay to anybody, due to contractor's failure

to fulfill any of his obligations. BHEL shall levy overheads of 15% on all such payments.

2.7.6 While every endeavour will be made by BHEL to this end, they cannot guarantee uninterrupted work due to conditions beyond their control. The Contractor will not be normally entitled for any compensation/extra payment on this account unless otherwise specified elsewhere in the contract.

2.7.7 In case the execution of works comes to a complete halt or reaches a stage wherein worthwhile works cannot be executed and there is no possibility of commencement of work for a period of not less than two months, due to reasons not attributable to the contractor and other than Force Majeure conditions, BHEL may consider permitting the contractor to de mobilize forthwith and re mobilize at an agreed future date. Cost of such demobilization/remobilization shall be mutually agreed. ORC in such cases shall not be applicable for the period between the period of demobilization and re mobilisation. The duration of contract/time extension shall accordingly get modified suitably. In case of any conflict, BHEL decision in this regard shall be final and binding on the contractor.

2.7.8 In the unforeseen event of inordinate delay in receipt of materials, drawings, fronts, etc, due to which inordinate discontinuity of work is anticipated, BHEL at its discretion may consider contractor's request to short close the contract, provided that the balance works are minor vis a vis the scope of work envisaged as per the contract. At the point of requesting for short closure, contractor shall establish that he has completed all works possible of completion and he is not able to proceed with the balance works due to constraints beyond his control. In such a case, the estimated value of the unexecuted portion of work as mutually agreed, shall however be reduced from the final contract value. Final Contract value for this purpose shall mean executed contract value plus value of unexecuted portion of work as per rate schedule.

2.7.9 **LIQUIDATED DAMAGES/PENALTY**

If the contractor fails to complete the work as per commissioning date of Generating Units prescribed in the contract or any extension of time, thereof then contractor shall pay to BHEL the liquidated damage for such default and not as penalty, a sum equivalent to 0.1% of the contract price for each unit (1/3rd of total contract price) for each day or part of a day by which commissioning of each generating unit under the contract is delayed with respect to specified time, subject to maximum of 10% of the contract price of that unit (1/3rd of total contract price). The levy of such liquidated damages in case of delay in commissioning of one unit, shall however, be compensated through early commissioning of the other units, provided WAPCOS (BHEL's customer) has not suffered any loss or damage on account of delay in commissioning of any particular unit.

2.8 **RESPONSIBILITIES OF THE CONTRACTOR IN RESPECT OF LOCAL LAWS, EMPLOYMENT OF WORKERS ETC.**

The following are the responsibilities of the contractor in respect of observance of local laws, employment of personnel, payment of taxes etc. The subcontractor shall fully indemnify BHEL against any claims of whatsoever nature arising due to the failure of the contractor in discharging any of his responsibilities hereunder:

2.8.1 As far as possible, Unskilled Workers shall be engaged from the local areas in which the work is being executed.

2.8.2 The contractor at all times during the continuance of this contract shall, in all his dealings with local

labour for the time being employed on or in connection with the work, have due regard to all local festivals and religious and other customs.

- 2.8.3 **COMPLIANCE TO REGULATIONS AND BYELAWS:** The governing laws to which the contract is to be subjected and according to which the Contract is to be constructed shall be the Laws for time being in force in India and Afghanistan. All national (or state) Legislation, statutes, ordinances & other laws, regulations & by Laws of any legally constituted public authority in Afghanistan shall be obeyed so far as the operation of the Contract in the country is concerned. However, all the litigation on the Contract shall be under jurisdiction of the court of Delhi.
- 2.8.4 **NOT APPLICABLE**
- 2.8.5 The contractor shall pay all taxes, fees, license charges, deposits, duties, tolls, royalties, commission or other charges which may be leviable on account of his operations in executing the contract.
- 2.8.6 **NOT APPLICABLE.**
- 2.8.7 Contractor shall be responsible for provision of Health and Sanitary arrangements, Safety precautions etc. as may be required for safe and satisfactory execution of contract.
- 2.8.8 The contractor shall be responsible for proper accommodation including adequate medical facilities for personnel employed by him.
- 2.8.9 The contractor shall be responsible for the proper behavior and observance of all regulations by the staff employed by him.
- 2.8.10 The contractor shall ensure that no damage is caused to any person/property of other parties working at site. If any such damage is caused, it is responsibility of the contractor to make good the losses or compensate for the same.
- 2.8.11 All the properties/equipments/components of BHEL/their Client loaned with or without deposit to the contractor in connection with the contract shall remain properties of BHEL/their Client.
- 2.8.12 The contractor shall use such properties for the purpose of execution of this contract. All such properties/equipments/components shall be deemed to be in good condition when received by the contractor unless he notifies within 48 hours to the contrary. The contractor shall return them in good condition as and when required by BHEL/their Client. In case of non-return, loss, damage, repairs etc, the cost thereof as may be fixed by BHEL Engineer will be recovered from the contractor
- 2.8.13 In case the contractor is required to undertake any work outside the scope of this contract, the rates payable shall be those mutually agreed upon if the item rates are not mentioned in existing contract
- 2.8.14 Any delay in completion of works/or non achievement of periodical targets due to the reasons attributable to the contractor, the same may have to be compensated by the contractor either by increasing manpower and resources or by working extra hours and/or by working more than one shift. All these are to be carried out by the contractor at no extra cost.

2.8.15 The contractor shall arrange, coordinate his work in such a manner as to cause no hindrance to other agencies working in the same premises.

2.8.16 All safety rules and codes applied by the Client/BHEL at site shall be observed by the contractor without exception. The contractor shall be responsible for the safety of the equipment/material and works to be performed by him and shall maintain all light, fencing guards, slings etc. or other protection necessary for the purpose. Contractor shall also take such additional precautions as may be indicated from time to time by the Engineer with a view to prevent pilferage, accidents, fire hazards. Due precautions shall be taken against fire hazards and atmospheric conditions. Suitable number of Clerical staff, watch and ward, store keepers to take care of equipment/materials and construction tools and tackles shall be posted at site by the contractor till the completion of work under this contract.

The contractor shall arrange for such safety devices as are necessary for such type of work and carry out the requisite site tests of handling equipment, lifting tools, tackles etc. as per prescribed standards and practices.

Contractor has to ensure the implementation of Health, Safety and Environment (HSE) requirements as per directions given by BHEL/Customer. The contractor has to assist in HSE audit by BHEL/Customer and submit compliance Report. The contractor has to generate and submit record/reports as per HSE plan/activities as per instruction of BHEL/Customer

2.8.17 The contractor will be directly responsible for payment of wages to his workmen. A pay roll sheet giving all the payments given to the workers and duly signed by the contractor's representative should be furnished to BHEL site for record purpose, if so called for.

2.8.18 In case of any class of work for which there is no such specification as laid down in the contract, such work shall be carried out in accordance with the instructions and requirements of the Engineer.

2.8.19 Also, no idle charges will be admissible in the event of any stoppage caused in the work resulting in contractor's labour and Tools & Plants being rendered idle due to any reason at any time.

2.8.20 The contractor shall take all reasonable care to protect the materials and work till such time the plant/equipment has been taken over by BHEL or their Client whichever is earlier.

2.8.21 The contractor shall not stop the work or abandon the site for whatsoever reason of dispute, excepting force majeure conditions. All such problems/disputes shall be separately discussed and settled without affecting the progress of work. Such stoppage or abandonment shall be treated as breach of contract and dealt with accordingly

2.8.22 The contractor shall keep the area of work clean and shall remove the debris etc. while executing day-to-day work. Upon completion of work, the contractor shall remove from the vicinity of work, all scrap, packing materials, rubbish, unused and other materials and deposit them in places specified by the Engineer. The contractor will also demolish all the hutments, sheds, offices, etc. constructed and used by him and shall clean the debris. In the event of his failure to do so, the same will be arranged to be done by the Engineer and the expenses recovered from the contractor.

2.8.23 The contractor shall execute the work in the most substantial and workman like manner in the

stipulated time. Accuracy of work and timely execution shall be the essence of this contract. The contractor shall be responsible to ensure that the quality, assembly and workmanship conform to the dimensions and clearance given in the drawings and/ or as per the instructions of the Engineer.

2.8.24 The Contractor to note that some of BHEL's T&Ps/MMDs may not be insured. The Contractor will take necessary precautions and due care to protect the same while in his custody from any damage/ loss till the same is handed over back to BHEL. In case the damage / loss is due to carelessness/ negligence on the part of the contractor, the Contractor is liable to get them repair/ replaced immediately and in case of his failure to do so within a reasonable time, BHEL will reserve the right to recover the loss from the contractor.

2.9 PROGRESS MONITORING, MONTHLY REVIEW AND PERFORMANCE EVALUATION

2.9.1 A detailed plan/programme for completion of the contractual scope of work as per the time schedule given in the contract shall be jointly agreed between BHEL and Contractor, before commencement of work . The above programme shall be supported by monthwise deployment of resources viz Manpower, T&P, Consumables, etc. Progress will be reviewed periodically (Daily/Weekly/Monthly) vis a vis this jointly agreed programme. The Contractor shall submit periodical progress reports (Daily/Weekly/Monthly) and other reports/information including manpower, consumables, T&P mobilization etc as desired by BHEL.

2.9.2 Monthly progress review between BHEL and Contractor shall be based on the agreed programme as above, availability of inputs/fronts etc, and constraints if any, as per prescribed formats. Manpower, T&P and consumable reports as per prescribed formats shall be submitted by contractor every month. Release of RA Bills shall be contingent upon certification by BHEL Site Engineer of the availability of the above prescribed formats duly filled in and signed.

2.9.3 The burden of proof that the causes leading to any shortfall is not due to any reasons attributable to the contractor is on the contractor himself. The monthly progress review shall record shortfalls attributable to (i) Contractor, (ii) Force Majeure Conditions, and (iii) BHEL

2.9.4 Quarterly 'Evaluation of Contractor Performance' shall be assessed as per prescribed formats and shall form the basis for 'Annual/Overall Performance Evaluation' of the Contractor. These shall also be used for Evaluation of Bids for future tenders.

2.10 TIME OF COMPLETION

2.10.1 The time schedule shall be as prescribed in the Contract. The time for completion shall be reckoned from the date of commencement of work at Site as certified by BHEL Engineers

2.10.2 The entire work shall be completed by the contractor within the time schedule or within such extended periods of time as may be allowed by BHEL under clause 2.11

2.11 EXTENSION OF TIME FOR COMPLETION

2.11.1 If the completion of work as detailed in the scope of work gets delayed beyond the contract period, the contractor shall request for an extension of the contract and BHEL at its discretion may extend the Contract.

2.11.2 Based on the monthly reviews jointly signed, the works balance at the end of original contract period less the backlog attributable to the contractor shall be quantified, and the number of months of 'Time extension' required for completion of the same shall be jointly worked out. Within this period of 'Time extension', the contractor is bound to complete the portion of backlog attributable to the contractor. Any further 'Time extension' or 'Time extensions' at the end of the previous extension shall be worked out similarly.

2.11.3 However if any 'Time extension' is granted to the contractor to facilitate continuation of work and completion of contract, due to backlog attributable to the contractor alone, then it shall be without

prejudice to the rights of BHEL to impose penalty/LD for the delays attributable to the contractor, in addition to any other actions BHEL may wish to take at the risk and cost of contractor.

- 2.11.4 A joint programme shall be drawn for the balance amount of work to be completed during the period of 'Time Extension', along with matching resources (with weightages) to be deployed by the contractor as per specified format. Review of the programme and record of shortfall shall be done every month of the 'Time extension' period in the same manner as is done for the regular contract period.
- 2.11.5 During the period of 'Time extension', contractor shall maintain their resources as per mutually agreed program
- 2.11.6 At the end of total work completion as certified by BHEL Engineer, and upon analysis of the total delay, the portion of time extensions attributable to (i) Contractor, (ii) Force majeure conditions, and (iii) BHEL, shall be worked out and shall be considered to be exhausted in the same order. The total period of time extensions shall be the sum of (i), (ii) and (iii) above and shall be equal to period between the scheduled date of completion and the actual date of completion of contract. LD shall be imposed/levied for the portion of time extensions attributable to contractor and recoverable from the dues payable to the contractor.

2.12 OVERRUN COMPENSATION

- 2.12.1 Over Run Compensation (ORC) is payable by way of rate revisions for periods beyond original contract period subject to the following terms and conditions.
- 2.12.2 Rates shall be increased by 10% for the first twelve months of one or more extensions beyond original contract period. For the next twelve months of further extensions if any, rates shall be increased as above by 10% over the previous twelve months, and similarly for each subsequent twelve months extension.
- 2.12.3 The amount of increase payable per month due to rate revisions is subject to minimum of US\$ 2,200/-per month and maximum of US\$ 22,000/- per month.
- 2.12.4 Should there be any 'Time extension' for reasons attributable only to the contractor, then the work shall be executed by the contractor at the rates applicable for the period the work was planned
- 2.12.5 Payment of ORC shall be regulated as follows:
- i) Contractor is entitled to Over Run Compensation (ORC) only for the portion of backlog attributable to BHEL.
 - ii) 50% of the compensation as per clause 2.12.3 is allocated for deployment of resources agreed as per the joint programme drawn vide 2.11.4. Payment shall however be based on the actual deployment of resources for the month as certified by BHEL, as per weightages assigned therein
 - iii) 50% of the compensation as per clause 2.12.3, is allocated for achieving of planned progress agreed as per the joint programme drawn vide 2.11.4. Payment shall be on pro rata basis for actual achieved quantities
 - iv) Total Over Run Compensation shall be limited to 10% of the executed contract value as certified in Final Bill. For this purpose executed contract value excludes PVC, ORC, Supplementary/Additional Items and Extra Works done on Manday rate basis
- 2.12.6 Contractor shall not be entitled for any Over Run Compensation (ORC) for the portion of backlog attributable to the contractor. Such works shall be executed at the rates applicable for the period the work was planned

2.13 INTEREST BEARING RECOVERABLE ADVANCES

- 2.13.1 Normally no advance is payable to the contractor. However, advance payment in exceptional

circumstances shall be interest bearing and secured through an equivalent Bank Guarantee and shall be limited to a maximum of 5% of contract value.

- 2.13.2 In exceptional circumstances, with due justification, Competent Authority of BHEL is empowered to approve proposals for payment of additional interim interest bearing advance against matching Bank Guarantee, for resource augmentation towards expediting work for project implementation.
- 2.13.3 Payment and recovery of Interest Bearing Recoverable advance shall be at the sole discretion of BHEL and shall not be a subject matter of arbitration.
- 2.13.4 The rate of interest applicable for the above advances shall be the prime lending rate of State Bank of India prevailing at the time of disbursement of the advance + 2%, and such rate will remain fixed till the total advance amount is recovered
- 2.13.5 Unadjusted amount of advances paid shall not exceed 5% of the total contract value at any point of time. Recovery of advances shall be made progressively from each Running Bill such that the advance amounts paid along with the interest is fully recovered by the time the contractor's billing reaches 80% of contract value.
- 2.13.6 Recovery rate per month shall be the sum of:
- a. 10% of Running Bill amount
 - b. Simple interest up to the date of RA Bill on the outstanding Principle amount/amounts
- 2.13.7 Contractor to submit Bank Guarantee as per prescribed formats for each of the advance and shall be valid for at least one year or the recovery duration or the balance contract period which ever is later. In case the recovery of dues does not get completed within the aforesaid BG period, the contractor shall renew the BG or submit fresh BG for the outstanding amount and the remaining recovery period.
- 2.13.8 BHEL is entitled to make recovery of the entire outstanding amount in case the contractor fails to comply with the BG requirement

2.14 QUANTITY VARIATION

- 2.14.1 The quoted rates shall remain firm irrespective of any variations in the individual quantities. No compensation becomes payable in case the variation of the final executed contract value is within the limits of Plus (+) or Minus (-) 15% of awarded contract value
- 2.14.2 Compensation due to variation of final executed value in excess of the limits defined in clause above, shall be as follows:
- i) In case the finally executed contract value reduces below the lower limit of Contract Value due to quantity variation specified above, the contractor will be eligible for compensation @ 15% of the difference between the lower limit of the contract value and the actual executed value.
 - ii) In case the finally executed contract value increases above the upper limit of Contract Value due to quantity variation specified above, there will be no revision in the rates within the contract period.

2.15 EXTRA WORKS

- 2.15.1 All rectifications/modifications, revamping, and reworks required for any reasons not due to the fault of the contractor, or needed due to any change in deviation from drawings and design of equipments, operation/maintenance requirements, mismatching, or due to damages in transit,

storage and erection/commissioning, and other allied works which are not very specifically indicated in the drawings, but are found essential for satisfactory completion of the work, will be considered as extra works.

- 2.15.2 Extra works arising on account of the contractor's fault, irrespective of time consumed in rectification of the damage/loss, will have to be carried out by the contractor free of cost. Under such circumstances, any material and consumable required for this purpose will also have to be arranged by the contractor at his cost.
- 2.15.3 All the extra work should be carried out by a separately identifiable gang, without affecting routine activities. Daily log sheets in the pro-forma prescribed by BHEL should be maintained and shall be signed by the contractor's representative and BHEL engineer. No claim for extra work will be considered/entertained in the absence of the said supporting documents i.e. daily log sheets. Signing of log sheets by BHEL engineer does not necessarily mean the acceptance of such works as extra works.
- 2.15.4 BHEL retains the right to award or not to award any of the major repair/rework/modification/rectification/fabrication works to the contractor, at their discretion without assigning any reason for the same
- 2.15.5 After eligibility of extra works is established and finally accepted by BHEL engineer/designer, payment will be released on competent authority's approval at the following rate.

MAN-HOUR RATE FOR ELIGIBLE EXTRA WORKS: Single composite average labour man-hour rate, including overtime if any, supervision, use of tools and tackles and other site expenses and incidentals, consumables for carrying out any major rework/repairs/rectification/modification/fabrication as certified by site as may arise during the course of erection, testing, commissioning or extra works arising out of transit, storage and erection damages, payment, if found due will be at **US\$ 3 per man hour.**

- 2.15.6 The above composite labour man hour rate towards extra works shall remain firm and not subject to any variation during execution of the work. PVC will not be applicable for extra works. Rate revision, Over Run Charges/compensation etc will not be applicable due to extra works.
- 2.15.7 **Extra Works for Civil Packages** shall be regulated as follows
- i) **Rates for Extra Works arising due to (1) non availability of BOQ (Rate Schedule), OR (2) change in Specifications of materials/works (3) rectification/modification/dismantling & re erecting etc due to no fault of Contractor, shall be in the order of the following:**
 - a) Item rates are to be derived from similar nature of items in the BOQ (Rate Schedule) with applicable escalation derived from All India Consumer Price Index for Whole Sale Commodities.
 - b) As per CPWD-DSR-2007 (or latest edition) with applicable escalation derived from All India Consumer price Index for Whole Sale Commodities, OR, Notification issued by the office of CPWD for 'Cost Index' in that Region where the project is being executed, whichever is less
 - c) Item rates are to be worked out on the basis of prevailing market rates mutually agreed between BHEL and Contractor, plus 15% towards Contractor's overheads and profit.
 - ii) PVC and ORC will not applicable be for (i) above.

2.16 SUPPLEMENTARY ITEMS

2.16.1 For NON Civil Works

Supplementary items are items/works required for completion of entire work but not specified in the scope of work. Subject to certification of such items/works as supplementary items by BHEL Engineer, rates shall be derived on the basis of any one of the following on mutual agreement:

- i) Based on percentage breakup/rates indicated for similar/nearby items
- ii) In case (i) above does not exist, then BHEL/site may derive the percentage breakup/rates to suit the type of work

2.16.2 For Civil Works

- i) Rates for Supplementary Works/Additional Works arising out due to additions/alterations in the original scope of works as per contract subject to certification of BHEL Engineer shall be worked out as under:

- a) Item rates which are available in existing BOQ (Rate Schedule) shall be operated with applicable escalation derived from All India Consumer Price Index for Whole Sale Commodities
- b) Items of works which are not available in existing BOQ shall be operated as an 'Extra Works' and rate shall be derived as per clause no 2.15.7
- ii) Execution of Supplementary Works/Additional Works through the Contractor shall be at the sole discretion of BHEL, and shall be considered as part of executed contract value for the purpose of Quantity Variation as per clause 2.14
- iii) BHEL Engineer's decision regarding fixing the rate as above is final and binding on the contractor.
- iv) PVC and ORC will not be applicable for (i) above.

2.17 PRICE VARIATION COMPENSATION: AS PER CLAUSE 11.2 OF TCC

2.18 INSURANCE

2.18.1 BHEL/their customer shall arrange for insuring the materials/properties of BHEL/customer covering the risks during transit, storage, erection and commissioning.

2.18.2 It is the sole responsibility of the contractor to insure his materials, equipments, workmen, etc. against accidents and injury while at work and to pay compensation, if any, to workmen as per Workmen's compensation Act. The work will be carried out in a protected area and all the rules and regulations of the client /BHEL in the area of project which are in force from time to time will have to be followed by the contractor.

2.18.3 If due to negligence and or non-observation of safety and other precautions by the contractors, any accident/injury occurs to the property / manpower belong to third party, the contractor shall have to pay necessary compensation and other expense, if so decided by the appropriate authorities.

2.18.4 The contractor will take necessary precautions and due care to protect the material, while in his custody from any damage/ loss due to theft or otherwise till the same is taken over by BHEL or customer. For lodging / processing of insurance claim the contractor will submit necessary documents. BHEL will recover the loss including the deductible franchise from the contractor, in case the damage / loss is due to carelessness / negligence on the part of the contractor. In case of any theft of material under contractor's custody, matter shall be reported to police by the contractor immediately and copy of FIR and subsequently police investigation report shall be submitted to BHEL for taking up with insurance. However this will not relieve the contractor of his contractual obligation for the material in his custody.

2.19 STRIKES & LOCKOUT

- 2.19.1 The contractor will be fully responsible for all disputes and other issues connected with his labour. In the event of the contractor's labour resorting to strike or the Contractor resorting to lockout and if the strike or lockout declared is not settled within a period of one month, BHEL shall have the right to get the work executed through any other agencies and the cost so incurred by BHEL shall be deducted from the Contractor's bills.
- 2.19.2 For all purposes whatsoever, the employees of the contractor shall not be deemed to be in the employment of BHEL

2.20 FORCE MAJEURE

The following shall amount to Force Majeure:-

- 2.20.1 Acts of God, act of any Government, War, Sabotage, Riots, Civil commotion, Police action, Revolution, Flood, Fire, Cyclones, Earth quake and Epidemic and other similar causes over which the contractor has no control.
- 2.20.2 If the contractor suffers delay in the due execution of the contractual obligation due to delays caused by force majeure as defined above, the agreed time of completion of the job covered by this contract or the obligations of the contractor shall be extended by a period of time equal to period of delay, provided that on the occurrence of any such contingency, the contractor immediately reports to BHEL in writing the causes of delay and the contractor shall not be eligible for any compensation.

2.21 ARBITRATION & RECONCILIATION

- 2.21.1 In case amicable settlement is not reached in the event of any dispute or difference arising out of the execution of the Contract or the respective rights and liabilities of the parties or in relation to interpretation of any provision by the Contractor in any manner touching upon the Contract, such dispute or difference shall (except as to any matters, the decision of which is specifically provided for therein) be referred to the sole arbitration of the arbitrator appointed by BHEL/In charge(Region).

The award of the Arbitrator shall be binding upon the parties to the dispute

Subject as aforesaid, the provisions of Arbitration and Reconciliation Act 1996 (India) or statutory modifications or re enactments thereof and the rules made there under and for the time being in force shall apply to the arbitration proceedings under this clause. The venue of the arbitration shall be the place from which the contract is issued or such other place as the Arbitrator at his discretion may determine

- 2.21.2 In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable :

In the event of any dispute or difference relating to the interpretation and application of the provisions of the Contract, such dispute or difference shall be referred to by either party to the

arbitration of one of the arbitrators in the department of public enterprises. The award of the arbitrator shall be binding upon the parties to the dispute, provided, however, any party aggrieved by such award may make further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law and Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary or Additional Secretary when so authorized by the Law Secretary, whose decision shall bind the parties hereto finally and conclusively.

2.21.3 The cost of arbitration shall be borne equally by the parties.

2.21.4 Work under the contract shall be continued during the arbitration proceedings

2.22 RETENTION AMOUNT

2.22.1 Retention Amount shall be 5% of executed contract value and shall be recovered at the rate of 5% from each Running Bill admitted, including PVC Bills. Retention amount shall always be retained in cash and shall not be released against BG under any circumstance.

2.22.2 Refund of Retention Amount shall be as follows.

- i) 50% of retention amount along with 'Final Bill'
- ii) Balance 50% of retention amount shall be retained towards 'Performance Guarantee for Workmanship' and shall become refundable after expiry of Guarantee period, provided all the defects noticed during the guarantee period have been rectified to the satisfaction of BHEL Site Engineer/BHEL Construction Manager, and after deducting all expenses/other amounts due to BHEL under the contract/other contracts entered into by BHEL with them. Bank Guarantees are not acceptable towards this portion of retention

2.23 PAYMENTS

Payments to Contractors are made in any one of the following forms

2.23.1 Running Account Bills (RA Bills)

- iii) These are for interim payments when the contracts are in progress. The bills for such interim payments are to be prepared by Contractor in prescribed formats (RA Bill forms).
- iv) Payments shall be made according to the extent of work done as per measurements taken up to the end of the calendar month and in line with the terms of payments described in the Tender documents
- v) Recoveries on account of electricity, water, statutory deductions, etc are made as per terms of contract
- vi) Full rates for the work done shall be allowed only if the quantum of work has been done as per the specifications stipulated in the contract. If the work is not executed as per the stipulated specifications, BHEL may ask the contractor to re do the work according to the required specifications, without any extra cost. However, where this is not considered necessary 'OR' where the part work is done due to factors like non-availability of material to be supplied by BHEL 'OR' non availability of fronts 'OR' non availability of drawings, fraction payment against full rate, as is considered reasonable, may be allowed with due regard for the work remaining to be done. BHEL decision in this regard will be final and binding on the contractor.
- vii) In order to facilitate part payment, BHEL Site Engineer at his discretion may further split the contracted rates/percentages to suit site conditions, cash flow requirements according to the progress of work

2.23.2 Final Bill

	<p>Final Bill' is used for final payment on closing of Running Account for works or for single payment after completion of works. 'Final Bill' shall be submitted as per prescribed format after completion of works as per scope and upon material reconciliation, along with the following.</p> <ul style="list-style-type: none"> iii) no claim certificate by contractor iv) Clearance certificates where ever applicable viz Clearance Certificates from Customer, various Statutory Authorities. v) Indemnity bond as per prescribed format <p>BHEL shall settle the final bills after deducting all liabilities of Contractor to BHEL</p>
<p>2.24 2.24.1 2.24.2</p>	<p>PERFORMANCE GUARANTEE FOR WORKMANSHIP</p> <p>Even though the work will be carried out under the supervision of BHEL Engineers the Contractor will be responsible for the quality of the workmanship and shall guarantee the work done for a period of twelve months from the date of commencement of guarantee period as defined in Special Conditions of Contract, for good workmanship and shall rectify free of cost all defects due to faulty erection detected during the guarantee period. In the event of the Contractor failing to repair the defective works within the time specified by the Engineer, BHEL may proceed to undertake the repairs of such defective works at the Contractor's risk and cost, without prejudice to any other rights and recover the same from the Guarantee money.</p> <p>BHEL shall release the guarantee money subject to the following</p> <ul style="list-style-type: none"> i) Contractor has submitted 'Final Bill' ii) Guarantee period as per contract has expired iii) Contractor has furnished 'No Claim Certificate' in specified format iv) BHEL Site Engineer/Construction Manager has furnished the 'No Demand Certificate' in specified format v) Contractor has carried out the works required to be carried out by him during the period of Guarantee and all expenses incurred by BHEL on carrying out such works is included for adjustment from the Guarantee money refundable.
<p>2.25</p>	<p>CLOSING OF CONTRACTS</p> <p>The Contract shall be considered completed and closed upon completion of all contractual obligations and settlement of Final Bill or completion of Guarantee period whichever is later. Upon closing of Contract, BHEL shall issue a completion certificate as per standard format, based on specific request of Contractor.</p>
<p>2.26</p>	<p>REVERSE AUCTION:</p> <p>BHEL reserves the right to go for Reverse Auction for Price Bid Opening by BHEL appointed service provider, instead of opening the submitted sealed price bid in the conventional way. The Business Rules for Reverse Auction shall be as per BHEL guidelines issued from time to time.</p>
<p>2.27</p>	<p>SUSPENSION OF BUSINESS DEALINGS</p> <p>BHEL reserves the right to take action against Contractors who either fail to perform or Tenderers/Contractor who indulge in malpractices, by suspending business dealings with them in line with BHEL guidelines issued from time to time.</p>
<p>2.28 2.28.1 2.28.2 2.28.3 2.28.4</p>	<p>OTHER ISSUES</p> <p>Value of Non judicial Stamp Paper for Bank Guarantees and for Contract Agreement shall be not less than Rs 100/- unless otherwise required under relevant statutes.</p> <p>In case of any conflict between the General Conditions of Contract and Special Conditions of Contract, provisions contained in the Special Conditions of Contract shall prevail.</p> <p>NOT APPLICABLE.</p> <p>BHEL may not insist for signing of Contract Agreements in respect of low value and short time period contracts like providing services for Hot water flushing, Chemical Cleaning, Transportation, etc</p>

TENDER - SPECIFICATIONS

VOLUME- ID (FORMS & PROCEDURES)



Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northern Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301(INDIA)

Rev 00
6th JULY
2010

FORMS & PROCEDURES

(Document No. PS:MSX:F&P)

BHARAT HEAVY ELECTRICALS LIMITED



FORMS & PROCEDURES

INDEX

SN	Description	Form No	No. of Pages
1.0	Forms		
1.1	Offer forwarding Letter/Submission of Tender	F-1 (Rev 00)	01
1.2	Declaration by Authorised Signatory	F-2 (Rev 00)	01
1.3	No Deviation Certificate	F-3 (Rev 00)	01
1.4	Declaration confirming knowledge about Site Conditions	F-4 (Rev 00)	01
1.5	Declaration for relation in BHEL	F-5 (Rev 00)	01
1.6	Non Disclosure Certificate	F-6 (Rev 00)	01
1.7	Bank Account Details for E-Payment	F-7 (Rev 00)	01
1.8	Form for seeking clarifications	F-8 (Rev 00)	01
1.9	Capacity Evaluation of Bidder for current Tender	F-9 (Rev 00)	01
1.10	Contract Agreement	F-10 (Rev 00)	04
1.11	Bank Guarantee for Security Deposit	F-11 (Rev 00)	02
1.12	Bank Guarantee for Interest Bearing Refundable Advance	F-12 (Rev 00)	03
1.13	Extension of Validity of Bank Guarantee	F-13 (Rev 00)	01
1.14	Monthly Plan & Review with Contractors	F-14 (Rev 00)	04
1.15	Guidelines for Evaluation of Contractor Performance	F-15 (Rev 00)	##
1.16	Evaluation of Contractor Performance (Quarterly)	F-16 (Rev 00)	04
1.17	Evaluation of Contractor Performance (Annual)	F-17 (Rev 00)	01
1.18	Evaluation of Contractor Performance for the Contract (Overall)	F-18 (Rev 00)	01
1.19	Milestone Completion Certificate	F-19 (Rev 00)	01

FORMS & PROCEDURES

SN	Description	Form No	No. of Pages
1.20	Completion Certificate	F-20 (Rev 00)	01
1.21	Indemnity Bond	F-21 (Rev 00)	02
1.22	Consortium Agreement	F-22 (Rev 00)	03
1.23	Refund of Security Deposit	F-23 (Rev 00)	01
1.24	Refund of Guarantee Money	F-24 (WAM-11)	02
1.25	Power of Attorney for Submission of Tender/Signing Contract Agreement	F-25 (Rev 00)	01
1.26	Analysis of Unit Rates Quoted	F-26 (Rev 00)	01
1.27	RA Bill Format	WAM-6	09
1.28	Final Bill Submission format with No Claim Certificate and No Demand Certificate	WAM-7	12
1.29			
1.30			
2.0	Procedures		
2.1	Procedure and Business Rules for Reverse Auction	As per Company Policy	
2.2	Integrity Pact	As per Company Policy	
3.0	Customer specific procedures		
3.1			

: will be released later

OFFER FORWARDING LETTER / TENDER SUBMISSION LETTER
(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

Offer Reference No:.....

Date:.....

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : Submission of Offer against Tender Specification No:

I/We hereby offer to carry out the work detailed in the Tender Specification issued by Bharat Heavy Electricals Limited, Power Sector-....., in accordance with the terms and conditions thereof.

I/We have carefully perused the following listed documents connected with the above work and agree to abide by the same.

1. Amendments/Clarifications/Corrigenda/Errata/etc issued in respect of the Tender documents by BHEL
2. Notice Inviting Tender (NIT)
3. Price Bid
4. Technical Conditions of Contract
5. Special Conditions of Contract
6. General Conditions of Contract
7. Forms and Procedures

Should our Offer be accepted by BHEL for Award, I/we further agree to furnish 'Security Deposit' for the work as provided for in the Tender Conditions within the stipulated time as may be indicated by BHEL.

I/We further agree to execute all the works referred to in the said Tender documents upon the terms and conditions contained or referred to therein and as detailed in the appendices annexed thereto.

I/We have deposited/depositing herewith the requisite Earnest Money Deposit (EMD) as per details furnished in the Check List.

Authorised Representative of Bidder

Signature :

Name :

Address :

Place:

Date:

DECLARATION BY AUTHORISED SIGNATORY OF BIDDER

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Declaration by Authorised Signatory**

Ref : 1) NIT/Tender Specification No:,
2) All other pertinent issues till date

I/We, hereby certify that all the information and data furnished by me with regard to the above Tender Specification are true and complete to the best of my knowledge. I have gone through the specifications, conditions, stipulations and all other pertinent issues till date, and agree to comply with the requirements and Intent of the specification.

I further certify that I am authorised to represent on behalf of my Company/Firm for the above mentioned tender and a valid Power of Attorney to this effect is also enclosed.

Yours faithfully,

(Signature, Date & Seal of Authorized
Signatory of the Bidder)

Date:

Enclosed : Power of Attorney

NO DEVIATION CERTIFICATE

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **No Deviation Certificate**

Ref : 1) NIT/Tender Specification No:,
2) All other pertinent issues till date

We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website/ issued by BHEL and in case of such observance at any stage, it shall be treated as null and void.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the Tender conditions together with other references applicable for the above referred NIT/Tender Specification.

We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to Tender Conditions, Integrity Pact (if applicable) and acceptance to Reverse Auctioning process.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized representative of the bidder)

DECLARATION CONFIRMING KNOWLEDGE ABOUT SITE CONDITIONS

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Declaration confirming knowledge about Site conditions**

Ref : 1) NIT/Tender Specification No:,

2) All other pertinent issues till date

I/We, _____ hereby declare and confirm that we have visited the Project Site as referred in BHEL Tender Specifications and acquired full knowledge and information about the Site conditions including Wage structure, Industrial Climate, the Law & Order and other conditions prevalent at and around the Site. We further confirm that the above information is true and correct and we shall not raise any claim of any nature due to lack of knowledge of Site conditions.

I/We, hereby offer to carry out work as detailed in above mentioned Tender Specification, in accordance with Terms & Conditions thereof.

Yours faithfully,

(Signature, Date & Seal of Authorized
Representative of the Bidder)

Date :

Place:

DECLARATION FOR RELATION IN BHEL

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder failing which the offer of Bidder is liable to be summarily rejected)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Declaration for relation in BHEL**

Ref : 1) NIT/Tender Specification No:

I/We hereby submit the following information pertaining to relation/relatives of Proprieter/Partner(s)/Director(s) employed in BHEL

Tick(√) any one as applicable:

1. The Proprieter, Partner(s), Director(s) of our Company/Firm DO NOT have any relation or relatives employed in BHEL

OR

2. The Proprieter, Partner(s), or Director(s) of our Company/Firm HAVE relation/relatives employed in BHEL and their particulars are as below:

(i)

(ii)

Signature of the Authorised Signatory

Note:

1. Attach separate sheet, if necessary.
2. If BHEL Management comes to know at a later date that the information furnished by the Bidder is false, BHEL reserves the right to take suitable against the Bidder/Contractor.

NON DISCLOSURE CERTIFICATE

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

I/We understand that BHEL PS-NR is committed to Information Security Management System as per their Information Security Policy.

Hence, I/We M/s.....
who are submitting offer for providing services to BHEL PS-NR against
Tender Specification No: _____,
hereby undertake to comply with the following in line with Information
Security Policy of BHEL PS-NR, NOIDA

- To maintain confidentiality of documents & information which shall be used during the execution of the Contract.
- The documents & information shall not be revealed to or shared with third party which shall not be in the business interest of BHEL PS-NR.

(Signature, date & seal of Authorized
Signatory of the bidder)

Date:

BANK ACCOUNT DETAILS FOR E-PAYMENT

(To be given on Letter head of the Company /Firm of Bidder, and **ENDORSED (SIGNED & STAMPED) BY THE BANK** to enable BHEL release payments through Electronic Fund Transfer (EFT/RTGS))

1. Beneficiary Name :
2. Beneficiary Account No. :
3. Bank Name & Branch :
4. City/Place :
5. 9 digit MICR Code of Bank Branch :
6. IFSC Code of Bank Branch :
7. Beneficiary E-mail ID :
(for payment confirmation)

NOTE: In case Bank endorsed certificate regarding above has already been submitted earlier, Kindly submit photocopy of the same

FORMAT FOR SEEKING CLARIFICATION

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Request for Clarification**Ref : 1) NIT/Tender Specification No:
2) All other pertinent issues till date

Sl no.	Reference clause of Tender Document	Existing provision	Bidder's query	BHEL's clarification
1				
2				
3				
4				
5				
6				

Yours faithfully,

(Signature, date & seal of Authorized Representative of the Bidder)

CAPACITY EVALUATION OF BIDDERS FOR CURRENT TENDER

SL NO.	DESCRIPTION OF WORK (Similar to Tendered Scope)	WORK ORDER REF & DATE	CONTRACT VALUE (Rs. LACS)	CUSTOMER NAME & ADDRESS	CURRENT STATUS OF THE JOB ALONG WITH LATEST MILE STONE COMPLETED	%AGE OF WORK COMPLETED	VALUE OF BALANCE WORK (Rs. Lacs)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

NOTES:

1. BIDDERS ARE REQUIRED TO FURNISH ALL THE JOBS OF SIMILAR NATURE WHICH THEY ARE EXECUTING (IN PROGRESS) AT THE TIME OF SUBMISSION OF TENDER, AS PER ABOVE FORMAT.

2. BIDDERS HEREBY UNDERTAKE THAT THEY HAVE FURNISHED THE DETAILS SOUGHT AS PER POINT NO. 1 IN TOTALITY AND THAT THE DETAILS FURNISHED IS COMPLETE IN ALL RESPECT.

3. BHEL WILL TAKE APPROPRIATE ACTION AS DEEMED FIT , IN CASE, IT IS FOUND AT A LATER DATE THAT THE CONTRACTOR HAD SUPPRESSED THE FACTS AND HAVE NOT FURNISHED THE CORRECT & COMPLETE INFORMATIONS.

DATE :
PLACE:

Signature

Name, Designation & Seal of Bidder

CONTRACT AGREEMENT

Form No: F-10 (Rev 00)

BHARAT HEAVY ELECTRICALS LIMITED
(A Government of India Undertaking)
Power Sector – Northern Region
NOIDA (UP)
INDIA

CONTRACT AGREEMENT

AGREEMENT NO. _____

NAME OF WORK	
NAME OF THE CONTRACTOR WITH FULL ADDRESS	
VALUE OF WORK AWARDED	
LETTER OF INTENT NO.	
TIME ALLOTTED FOR COMPLETING THE WORK (DATE OF COMPLETION)	

SIGNATURE OF CONTRACTOR

(SIGNATURE OF BHEL OFFICER)

CONTRACT AGREEMENT

THIS AGREEMENT MADE THIS _____ DAY OF _____ between BHARAT HEAVY ELECTRICALS LIMITED (A Government of India Enterprise) a Company incorporated under the Companies Act, 1956, having its Registered Office at BHEL House, Siri Fort New Delhi-110049 (herein after called BHEL) of the ONE PART.

AND

M/S _____
_____ (hereinafter called the `Contractor') of the SECOND PART.

WHEREAS M/s -----state that they have acquired and possess extensive experience in the field of -----

And Whereas in response to an Invitation to Tender No. ----- issued by BHEL for execution of ----- the contractor submitted their offer No.-----dated -----And whereas BHEL has accepted the offer of the Contractor on terms and conditions specified in the Letter of Intent No.-----dated -----read with the references cited therein.

THIS AGREEMENT WITNESSES AND it is hereby agreed by and between the parties as follows:

1. That the contractor shall execute the work of -----and more particularly described in Tender Specification No -----including Drawings and Specifications (hereinafter called the said works) in accordance with and subject to terms and conditions contained in these presents, instructions to Tenderers, General Conditions of Contract, Special Conditions, Annexures, Letter of Intent dated ----- and such other instructions, Drawings, Specifications given to him from time to time by BHEL.
2. The Contractor is required to furnish to BHEL Security deposit in the form of cash/ approved securities/ Bank Guarantee valid upto ----- for a sum of Rs.----- towards satisfactory performance and completion of the Contract.
3. The Contractor has furnished a Bank Guarantee bearing no.-----dated -----for a sum of Rs.-----executed by ----- in favour of BHEL towards Security Deposit valid upto -----

OR

The Contractor has furnished to BHEL an initial Security Deposit of Rs.-----in the form of cash / approved Securities/ B.G No.----- dated ----- for Rs.-----executed by ----- in favour of BHEL valid upto ----- and has agreed for recovery of the balance security deposit by BHEL @ 10% of the value of work done from each running bill till the entire Security Deposit is recovered.

OR

The contractor has furnished to BHEL an initial Security Deposit of Rs.----- (Rs.----- vide Bank draft No.-----dated -----and by adjusting EMD of Rs.----- submitted vide Bank draft No.----- dt.-----) and has agreed for recovery of balance Security Deposit by BHEL @ 10% of the value of work done from each running bill till the entire security deposit is recovered.

4. The Contractor hereby agrees to extend the validity of the Bank Guarantee for such further period or periods as may be required by BHEL and if the Contractor fails to obtain such extension(s) from the Bank, the Contractor, shall pay forthwith or accept recovery of Rs.----- from the bills in one installment and the contractor further agrees that failure to extend the validity of the Bank Guarantee or failure to pay the aforesaid amount in the manner specified above shall constitute breach of contract. In addition to above, BHEL shall be entitled to take such action as deemed fit and proper for recovering the said sum of Rs.-----

OR

In case the contractor furnishes the bank guarantee at a later date the contractor hereby agrees to extend the validity of bank guarantee for such further period or periods as may be required by BHEL and if the contractor fails to obtain such extension(s) from the bank, the contractor shall pay forthwith or accept recovery of the amount of bank guarantee given in lieu of security deposit from the bills in one installment and the contractor further agrees that failure to extend the validity of bank guarantee or failure to pay the aforesaid amount in the manner specified above shall constitute breach of contract. In addition to above, BHEL shall be entitled to take such action as deemed fit and proper for recovering the said sum.

5. That in consideration of the payments to be made to the Contractor by BHEL in accordance with this Agreement the Contractor hereby covenants and undertakes with BHEL that they shall execute, construct, complete the works in conformity, in all respects, with the terms and conditions specified in this Agreement and the documents governing the same.
6. That the Contractor shall be deemed to have carefully examined this Agreement and the documents governing the same and also to have satisfied himself as to the nature and character of the Works to be executed by him.
7. That the Contractor shall carry out and complete the execution of the said works to the entire satisfaction of the Engineer or such other officer authorised by BHEL, within the agreed time schedule, the time of completion being the essence of the Contract.
8. That BHEL shall, after proper scrutiny of the bills submitted by the Contractor, pay to him during the progress of the said works such sum as determined by BHEL in accordance with this Agreement.
9. That this Agreement shall be deemed to have come into force from ----- the date on which the letter of intent has been issued to the Contractor.
10. That whenever under this contract or otherwise, any sum of money shall be recoverable from or payable by the Contractor, the same may be deducted in the manner as set out in the General Conditions of Contract or other conditions governing this Agreement.
11. That all charges on account of Octroi, Terminal and other taxes including sales tax or other duties on material obtained for execution of the said works shall be borne and paid by the Contractor.
12. That BHEL shall be entitled to deduct from the Contractor's running bills or otherwise Income Tax under Section 194 (C) of the Income Tax Act, 1961.
13. That BHEL shall be further entitled to recover from the running bills of the Contractor or otherwise such sum as may be determined by BHEL from time to time in respect of

CONTRACT AGREEMENT

Form No: F-10 (Rev 00)

consumables supplied by BHEL, hire charges for tools and plants issued (Where applicable) and any other dues owed by the Contractor.

14. That it is hereby agreed by and between the parties that non- exercise, forbearance or omission of any of the powers conferred on BHEL and /or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these presents and the liability of the Contractor with respect to compensation payable to BHEL or Contractor's obligations shall remain unaffected.

15. It is clearly understood by and between the parties that in the event of any conflict between the Letter of Intent and other documents governing this Agreement, the provisions in the Letter of Intent shall prevail.

16. The following documents

1. Invitation to Tender No-----
and the documents specified therein.

2. Contractor's Offer No-----
dated-----.

3. _____

4. _____

5. _____

6. Letter of Intent No_____ dated_____.

7. _____

shall also form part of and govern this Agreement.

IN WITNESS HEREOF, the parties hereto have respectively set their signatures in the presence of

WITNESS

1.

2.

(CONTRACTOR)
(to be signed by a person holding
a valid Power of Attorney)

WITNESS

1.

2.

(For and on behalf of BHEL)

BANK GUARANTEE FOR SECURITY DEPOSIT

B.G. NO.

Date

This deed of Guarantee made this ----- day of -----two thousand ---- by <Name and Address of Bank> hereinafter called the "The Guarantor" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns) in favour of M/s Bharat Heavy Electrical Limited (A Govt. of India Undertaking) a company incorporated under the Companies Act, 1956, having its registered office at BHEL House, Siri Fort, Asiad, New Delhi – 110049 through its unit at BHEL, Power Sector Northern Region, Sector-16-A, NOIDA -201301(UP) hereinafter called "The Company" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns)

WHEREAS < Contractor's Name and Address> (hereinafter referred to as the Contractor) have entered into a contract arising out of Letter of Intent no. < LOI REF & Date > (hereinafter referred to as "the contract") for < Name of Work > with the company.

AND WHEREAS the contract inter-alia provides that the contractor shall furnish to the company a sum of Rs.----- (Rupees-----) towards security deposit for due and faithful performance of the contract in the form and manner specified therein.

AND WHEREAS the contractor has approached the Guarantor and in consideration of the arrangement arrived at between the contractor and the Guarantor, the Guarantor has agreed to give the Guarantee as hereinafter mentioned in favour of the company.

The Guarantor do hereby guarantee to the company the due and faithful performance, observance or discharge of the Contract by the contractor and further unconditionally and irrevocably undertake to pay to the Company without demur and merely on a demand, to the extent of Rs.----- (Rupees-----) against any claim by the company on them for any loss, damage, costs, charges and expenses caused to or suffered by the company by reasons of the contractor making any default in the performance, observance or discharge of the terms, conditions, stipulations or undertakings or any of them as contained in the contract.

The decision of the company whether any default has occurred or has been committed by the contractor in the performance, observance or discharge of any of the terms, conditions, stipulations or undertakings or any one of them as contained in the contract and / or as to the extent of loss, damage, costs, charges and expenses caused to or suffered by the company by reason of the contractor making any default in the performance, observance or discharge of any of the terms, conditions, stipulations or undertakings or any one of them shall be conclusive and binding on the Guarantor irrespective of the fact whether the contractor admits or denies the default or questions the correctness of any demand made by the company in any Court, Tribunal or Arbitration proceedings or before any other Authority.

The company shall have the fullest liberty without affecting in any way the liability of the Guarantor under this Guarantee, from time to time to vary any of the terms and conditions of the contract or extend time of performance by the contractor or to postpone for any time and from time to time any of the powers exercisable by it against the contractor and either enforce or forebear from enforcing any of the terms and conditions governing the contract or securities available to the company and the Guarantor shall not be released from its liability under these presents by any exercise by the company of the liberty with reference to the matters aforesaid or by reasons of time being given to the contractor or any other forbearance, act or commission on the part of the company or any indulgence by the company to the contractor or any other matter or thing whatsoever which under the law relating to sureties would, but for this provision have the effect of so releasing the Guarantor from its liability under this guarantee.

The Guarantor further agrees that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the contract and its claim satisfied or discharged and till the company certifies that the terms and conditions of the contract have been fully and properly carried out by the contractor and accordingly discharges this Guarantee, subject however, that the company shall have no claim under this Guarantee after ----- i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time, as the case may be) unless a notice of the claim under this Guarantee has been served on the Guarantor before the expiry of the said period in which case the same shall be enforceable against the Guarantor notwithstanding the fact that the same is enforced after the expiry of the said period.

BANK GUARANTEE FOR SECURITY DEPOSIT

The Guarantor undertakes not to revoke this Guarantee during the period it is in force except with the previous consent of the Company in writing and agrees that any liquidation or winding up or insolvency or dissolution or any change in the constitution of the contractor or the Guarantor shall not discharge the Guarantor's liability hereunder.

It shall not be necessary for the company to proceed against the contractor before proceeding against the Guarantor and the Guarantee herein contained shall be enforceable against them notwithstanding any security which the Company may have obtained or obtain from the Contractor shall at the time when proceedings are taken against the Guarantor hereunder be outstanding or unrealized.

Notwithstanding anything contained herein before, our liability under the Guarantee is restricted to Rs.----- - (Rupees-----). Our guarantee shall remain in force until -----, i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time) unless a claim or demand under this guarantee is made against us on or before ----- we shall be discharged from our liabilities under this Guarantee thereafter.

Any claim or dispute arising under the terms of this documents shall only be enforced or settled in the courts of at New Delhi/Delhi only.

The Guarantor hereby declares that it has power to execute this guarantee and the executant has full powers to do so on behalf of the Guarantor.

IN WITNESS whereof the ----- (Bank) has hereunto set and subscribed its hand the day, month and year first, above written.

(Name of the Bank)

Signed for and on behalf of the Bank
(Designation of the Authorized Person Signing the Guarantee)

(Signatory No.-----)

DATED:

SEAL

Notes :

1. **Address of Power Sector Regions (inviting the Tender)** is as below:
 - PSNR : Bharat Heavy Electricals Limited, Power Sector Northern Region, HRDI & PSNR Complex, Plot No 25, Sector 16-A, Noida – 201 301 (Uttar Pradesh)
 - PSER : Bharat Heavy Electricals Limited, Power Sector Eastern Region, BHEL Bhawan, Plot No 9/1, DJ Block, Sector-II, Salt lake City, Kolkata – 700 091
 - PSWR: Bharat Heavy Electricals Limited, Power Sector Western Region, Shree Mohini Complex, 345 Kingsway, Nagpur 440 001
 - PSSR: Bharat Heavy Electricals Limited, Power Sector Southern Region, 690, Anna Salai, Nandanam, Chennai 600 035
2. **Name of place (for jurisdiction of Courts)** is as below:
 - PSNR : Delhi
 - PSER : Kolkata
 - PSWR: Nagpur
 - PSSR : Chennai
3. The BG shall be executed on non-judicial stamp papers of adequate value procured in the name of the Bank in the State where the Bank is located.
4. The BG is required to be sent by the executing Bank directly to BHEL at the address where tender is submitted / accepted under sealed cover.

BANK GUARANTEE FOR INTEREST BEARING REFUNDABLE ADVANCE

B.G. No.

Date

This deed of Guarantee made this _____ day of _____ two thousand _____ by < **Name and Address of Bank**> hereinafter called the "The Guarantor" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns) in favour of M/S Bharat Heavy Electricals Limited a Company incorporated under the Companies Act, 1956, having its registered office at BHEL House, Siri Fort, New Delhi - 110049 through its unit at BHEL, POWER SECTOR, Northern Region, Sector-16 A, NOIDA-201301 (UP) hereinafter called "The Company" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns).

WHEREAS M/s. _____ (hereinafter referred to as the Contractor) have entered into a Contract arising out of Letter of Intent no. _____ dtd _____ (hereinafter referred to as "the Contract") for the < **Name of work**> with the Company.

AND WHEREAS the Contract inter-alia provides that the Company will pay to the Contractor interest bearing advance of Rs. _____ (Rupees _____ only) on certain terms and conditions specified in the Contract subject to the Contractor furnishing a Bank Guarantee for Rs. _____ (Rupees _____ only) in favour of the Company.

AND WHEREAS the Company has agreed to accept a Bank Guarantee from a Bank to cover the said advance.

AND WHEREAS the Contractor has approached the Guarantor and in consideration of the arrangement arrived at between the Contractor and the Guarantor, the Guarantor has agreed to give the Guarantee as hereinafter mentioned in favour of the Company.

NOW THIS DEED WITNESSES AS FOLLOWS:-

- (1) In consideration of the Company having agreed to advance a sum of Rs. _____ (Rupees _____ only) to the Contractor, the Guarantor do hereby guarantee the due recovery by the Company of the said advance with interest thereon as provided according to the terms and conditions of the Contract. If the said Contractor fails to utilise the said advance for the purpose of the Contract and /or the said advance together with interest as aforesaid is not fully recovered by the Company the Guarantor do hereby unconditionally and irrevocably undertake to pay to the Company without demur and merely on a demand, to the extent of the said sum of Rs. _____ (Rupees _____ only) any claim made by the Company on them for the loss or damage caused to or suffered by the Company by reasons of the Company not being able to recover in full the advance with interest as aforesaid.

BANK GUARANTEE FOR INTEREST BEARING REFUNDABLE ADVANCE

- (2) The decision of the Company whether the Contractor has failed to utilise the said advance or any part thereof for the purpose of the Contract and / or as to the extent of loss or damage caused to or suffered by the Company by reason of the Company not being able to recover in full the said sum of Rs. _____ with interest if any shall be final and binding on the Guarantor, irrespective of the fact whether the Contractor admits or denies the default or questions the correctness of any demand made by the Company in any Court Tribunal or Arbitration proceedings or before any other Authority.
- (3) The Company shall have the fullest liberty without affecting in any way the liability of the Guarantor under this Guarantee, from time to time to vary any of the terms and conditions of the Contract or extend time of performance by the Contractor or to postpone for any time and from time to time any of the powers exercisable by it against the Contractor and either enforce or forbear from enforcing any of the terms and conditions governing the Contract or securities available to the Company and the Guarantor shall not be released from its liability under these presents by any exercise by the Company of the liberty with reference to the matters aforesaid or by reasons of time being given to the Contractor or any other forbearance, act or commission on the part of the Company or any indulgence by the Company to the Contractor or of any other matter or thing whatsoever which under the law relating to sureties would, but for this provision have the effect of so releasing the Guarantor from its liability under this guarantee.
- (4) The Guarantor further agrees that the Guarantee herein contained shall remain in full force and effect during the period till the Company discharges this Guarantee, subject to however, that the Company shall have no claim under this Guarantee after _____ i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time, as the case may be) unless a notice of the claim under this Guarantee has been served on the Guarantor before the expiry of the said period in which case the same shall be enforceable against the Guarantor notwithstanding the fact that the same is enforced after the expiry of the said period.
- (5) The Guarantor undertakes not to revoke this Guarantee during the period it is in force except with the previous consent of the Company in writing and agrees that any liquidation or winding up or insolvency or dissolution or any change in the constitution of the Contractor or the Guarantor shall not discharge the Guarantor's liability hereunder.
- (6) It shall not be necessary for the Company to proceed against the Contractor before proceeding against the Guarantor and the Guarantee herein contained shall be enforceable against them notwithstanding any security which the Company may have obtained or obtain from the Contractor shall at the time when proceedings are taken against the Guarantor hereunder be outstanding or unrealised.
- (7) Notwithstanding anything contained herein before, our liability under the Guarantee is restricted to Rs. _____ (Rupees _____). Our guarantee shall remain in force until _____, i.e. the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time. Unless a claim or demand under this guarantee is made against us on or before-----, we shall be discharged from our liabilities under this Guarantee thereafter.

BANK GUARANTEE FOR INTEREST BEARING REFUNDABLE ADVANCE

- (8) Any claim or dispute arising under the terms of this document shall only be enforced or settled in the courts at New Delhi/Delhi only.
- (9) The Guarantor hereby declares that it has power to execute this Guarantee under its Memorandum and Articles of Association and the executant has full powers to do so on its behalf under the Power of Attorney dated _____ (To be incorporated by the Bank) granted to him by the proper authorities of the Guarantor.

IN WITNESS whereof the _____(Bank) has hereunto set and subscribed its hand the day, month and year first, above written.

(Name of the Bank)

Signed for and on behalf of the Bank
(Designation of the Authorized Person Signing the Guarantee)

(Signatory No.-----)

DATED:

SEAL

Notes :

1. **Address of Power Sector Regions (inviting the Tender)** is as below:
 - PSNR : Bharat Heavy Electricals Limited, Power Sector Northern Region, HRDI & PSNR Complex, Plot No 25, Sector 16-A, Noida-201301 (Uttar Pradesh)
 - PSER : Bharat Heavy Electricals Limited, Power Sector Eastern Region, BHEL Bhawan, Plot No 9/1, DJ Block, Sector-II, Salt lake City, Kolkata – 700 091
 - PSWR: Bharat Heavy Electricals Limited, Power Sector Western Region, Shree Mohini Complex, 345 Kingsway, Nagpur 440 001
 - PSSR: Bharat Heavy Electricals Limited, Power Sector Southern Region, 690, Anna Salai, Nandanam, Chennai 600 035
2. **Name of place (for jurisdiction of Courts)** is as below:
 - PSNR : Delhi
 - PSER : Kolkata
 - PSWR: Nagpur
 - PSSR : Chennai
3. The BG shall be executed on non-judicial stamp papers of adequate value procured in the name of the Bank in the State where the Bank is located.
4. The BG is required to be sent by the executing Bank directly to BHEL at the address where tender is submitted / accepted, under sealed cover.

FORM for EXTENSION OF VALIDITY OF BANK GUARANTEE

- 1. To be typed on non judicial Stamp Papers of value as applicable in the State of India from where the BG has been issued or the State of India where the BG shall be operated
- 2. The non judicial stamp papers shall be purchased in the name of the Party on whose behalf the BG is being issued or the BG issuing Bank

BANK GUARANTEE NO.:

Date:.....

To

(Write Designation and Address of Officer of BHEL inviting the Tender)

Dear Sir

Sub : Validity of Bank Guarantee No:..... Dated for
..... Rs in favour of yourself, expiry date
....., on account of M/s in respect of
Contract Number....., (herein after called the Original bank Guarantee)

At the request of M/s....., we Bank,
having its branch Office at and having Head office
at, do hereby extend our liability under the above mentioned Bank Guarantee
number..... dated for a further period ofMonths/years
from to expire on

Except as provided above, all other terms and conditions of the Original Bank Guarantee No
..... Dated..... shall remain unaltered and binding on us.

Kindly treat this extension as an integral part of the original Bank Guarantee to which it
would be attached.

Yours faithfully

Signature.....
Name & Designation.....
Power of Attorney/Signing Power No
Seal of Bank



MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page 1 of 4

Name of Site		Contract No.	
		Name of Contractor	
Review for the month of		Brief Scope of work	
Date of Review			

PART- A PHYSICAL REVIEW

Sl.No	Description of work	Unit of Measurement	Original Plan (QTY Planned for the month as per joint review of previous month)	Last months shortfall (attributable to Contractor)	Total Planned for the month (including previous month backlog attributable to Contractor)	Achieved	Shortfall attributable to (in Qty)		REMARKS
			(a)	(b)	C=(a)+(b)		BHEL	Contractor	
		UOM	Phy.	Phy	Phy	Phy.	Phy.	Phy.	

Use separate sheets if necessary

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS- NR

**MONTHLY PLAN & REVIEW WITH
CONTRACTOR**

Page 2 of 4

CONTRACT NO:

CONTRACTOR:

PART – B-1 REVIEW OF DEPLOYMENT OF MAJOR T&Ps

SUPPLIER SCOPE:-

SN.	MAJOR T&P TO BE DEPLOYED AS PER WORK PLANNED FOR THE MONTH	QTY.	DEPLOYMENT STATUS (ACTUAL DEPLOYED)	REMARKS (WORKS EFFECTED DUE TO NON-DEPLOYMENT OF T&Ps)

BHEL SCOPE:-

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS- NR

**MONTHLY PLAN & REVIEW WITH
CONTRACTOR**

Page 3 of 4

CONTRACT NO:

CONTRACTOR:

PART – B-2 REVIEW OF DEPLOYMENT OF MANPOWER

SUPPLIER SCOPE:-

SNO.	AREA OF WORK	CATEGORY OF LABOUR	NO. OF LABOUR REQUIRED AS PER CATEGORY	DEPLOYED FOR THE PERIOD	REMARKS (WORKS AFFECTED DUE TO NON-AVAILABILITY OF LABOUR)

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



PS- NR

MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page 4 of 4

CONTRACT No.:**Date of Report:****PART C1 : PLAN FOR THE NEXT MONTH (PHYSICAL)**

SL NO.	DESCRIPTION OF WORK (Area Wise)	PLANNED MT/ % / QTY (EXCLUDING SHORTFALLS ATTRIBUTABLE TO CONTRACTOR TILL DATE)	T&Ps REQUIRED	MANPOWER REQUIRED	REMARKS

NOTE: USE SEPARATE SHEETS, IF REQUIRED

**PART C2: PLAN FOR THE NEXT MONTH
(OTHERS)**

SL NO.	DESCRIPTION OF WORK (Area Wise)	PLANNED MT/ % / QTY	T&Ps REQUIRED	MANPOWER REQUIRED	REMARKS

NOTE: USE SEPARATE SHEETS, IF REQUIRED

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



QUARTERLY EVALUATION OF OF CONTRACTOR PERFORMANCE

Page No 1 Of 4

NOTE: This evaluation should be done **EVERY QUARTER** * by the respective Regions for all Contracts under executions

* : March, June, September & December of every year

A	GENERAL	
1	Reporting Period	Quarter ending : Year :
2	Name of Site	
3	Name of Contractor	
4	Contract Number/LOI Number & Date	
5	Name of Work	
6	Contract Start Date	
	I. As per Contract	
	II. Actual Date of Start	
7	Completion Status (as on date)	
	I. Physical completion in %age	
	II. Running Bill amount paid in %age of Contract Value	
8	Scheduled Completion Time	
9	Actual Date of Completion	
10	Awarded Contract Value	
11	Final contract Value	
BHEL		Contractor
(Signature with Name, Designation & date)		(Signature with Name, Designation & date)



QUARTERLY EVALUATION OF CONTRACTOR PERFORMANCE

Page No 2 Of 4

		MAX SCORE	SCORE OBTAINED
1.0 QUALITY			
1.1	Amenability to Quality System	5	
1.2	Adherence to Quality Standards	5	
1.3	Preventing recurrence of Defects/Complaints	5	
1.4	Finishing and aesthetics	5	
1.5	Housekeeping	5	
1.6	Rating of Quality Officer for Quality Control of Job	5	
2.0 DELIVERY			
2.1	Achievements vis a vis Requirements/Commitments	5	
2.2	Timely Depoyment of Manpower	5	
2.3	Timely Depoyment of T&Ps and MMEs	5	
2.4	Timely arrangement of Consumables	5	
3.0 MANPOWER			
3.1	Experience and Job knowledge of Supervisory personnel	5	
3.2	Aptitude of supervisory Personnel (w.r.t. Attitude, Initiative, Leadership, Cooperativeness, etc.)	5	
3.3	Adequacy of Manpower (Work Force) deployed	5	
3.4	Competence of Manpower (Work Force) deployed	5	
4.0 T&P, IMTEs & CONSUMABLES			
4.1	Adequacy of T&P & MMEs as per Site requirement	5	
4.2	Condition of T&P & MMEs	5	
4.3	Ensuring Fitness & Calibration of T&P & MMEs	5	
4.4	Adequacy of Consumables as per Site requirement	5	
5.0 SITE INFRASTRUCTURE AND SERVICE			
5.1	Site Organization vis a vis Commitment	5	
5.2	Readiness to rectify Defects	5	
5.3	Providing support Documents and Records	5	
5.4	Speed of responce	5	
5.5	Cooperativeness in Delivering and Implementing Improvement Measures	5	
5.6	Approachability of Top Management during critical requirements and its cooperation	5	



QUARTERLY EVALUATION OF CONTRACTOR PERFORMANCE

Page No 3 Of 4

6.0 SITE FINANCE

6.1	Regularity in Payment to Staff and Workers	5	
6.2	Financing Site Operation	5	

7.0 HSE (Health Safety & Environment) & SA (Social Accountability)

7.1	Health & Safety Awareness among Employess	5	
7.2	Rating of Safety Supervisor on HSE Aspects		
7.2.1	Experience and Job knowledge of Safety Supervisor	5	
7.2.2	Rating of safety Supervisor for controlling Safety at Site	5	
7.3	Quality & Usage of Safety gadgets		
7.3.1	Personal Protective Equipments (PPE)	5	
7.3.2	Use of Safety Equipments & Safety in Equipments (Safety Net, Toeguard, Proper earthing, Fire-fighting Equipments etc.)	5	
7.4	Use of Safety Posters	5	
7.5	Compliance to Social Accountablity Norms	5	
7.6	Rating based on feed back of HSE & SA Audits	5	

8.0 OTHERS

8.1	Concern for Employees Welfare and Health (like First Aid)	5	
8.2	Compliance to Statutory Requirements, State and Local Laws/Regulations	5	
8.3	Tendency of taking undue advantage by interpreting Contract Clauses in their favour (Score 5 for no tendency)	5	
8.4	Understanding of Contract (Scope & Contract Clauses)	5	
8.5	Planning of Work Activities(Monthly/Weekly/Daily)	5	
8.6	Submission of Monthly/Weekly/daily Report	5	

BHEL
(Signature with Name, Designation & date)

Contractor
(Signature with Name, Designation & date)



**ANNUAL EVALUATION OF CONTRACTOR
PERFORMANCE**
(EVALUATED FINANCIAL YEAR WISE AT HQ)

Page 1 of 1

1. **Contract No.:**
2. **Contractor:**
3. **Name of Site :**
4. **Reporting Period (Financial Year):**

Sl No	QUARTER	Net Weighted score
1	Quarter-I	
2	Quarter-II	
3	Quarter-III	
4	Quarter-IV	
5	Total for the 4 Quarters	
6	Average for the Year (Financial Year)	
7	Annual Evaluation of Contractor Performance (based on net weighted score)	<ul style="list-style-type: none"> ➤ 80% and above : Good ➤ Between 60% to 80% : Satisfactory ➤ 60% and below : Unsatisfactory

Comments if any:

Head/Subcontracts

Date:

General Manager/SCP



**OVERALL PERFORMANCE OF CONTRACTOR FOR THE
CONTRACT**
(EVALUATED CONTRACT WISE AT HQ)

Page 1 of 1

1. Contract No.:

2. Contractor:

3. Name of Site :

4. Reporting period (From : _____ To : _____)

SI No	FINANCIAL YEAR	QUARTER	Net Weighted score
1		Quarter-I	
		Quarter-II	
		Quarter-III	
		Quarter-IV	
2		Quarter-I	
		Quarter-II	
		Quarter-III	
		Quarter-IV	
3		Quarter-I	
		Quarter-II	
		Quarter-III	
		Quarter-IV	
4		Quarter-I	
		Quarter-II	
		Quarter-III	
		Quarter-IV	
5		Total for all the quarters	
6		Average for the all the Quarters (Contract Period)	
7		Overall Performance for the Contract (based on net weighted score)	➤ 80% and above : Good ➤ Between 60% to 80%: Satisfactory ➤ 60% and below : Unsatisfactory

Comments if any:**Head/Subcontracts****Date:****General Manager/SCP**

MILESTONE COMPLETION CERTIFICATE
(issued by BHEL on the specific request of Contractor)

Ref :

Date:

To,

(Name & address of Contractor)

Dear Sir,

References

1. Contract No:
2. Job Description:

This is to hereby confirm that the following Milestone Activity has been achieved in respect of the Contract /Job under reference

SI No	Milestone Activity	Remarks

This certificate is issued as per your request vide letter no
without any prejudice to the rights of BHEL in line with the terms and conditions of the
above referred Contract

Yours faithfully,

For and on behalf of Bharat Heavy Electricals Limited

Construction Manager/Head (Subcontracts)

CONTRACT COMPLETION CERTIFICATE
 (Issued by BHEL/HQ on the specific request of Contractor)

Ref :

Date:

To Whom so ever it may concern

1	DESCRIPTION OF WORK	
2	NAME AND ADDRESS OF THE CONTRACTOR	
3	CONTRACT NO	
4	CONTRACT VALUE	
5	LETTER OF INTENT NO & DATE	
6	CONTRACT PERIOD//CONTRACT DURATION	
7	FINAL EXECUTED VALUE	
8	PERFORMANCE	GOOD SATISFACTORY UNSATISFACTORY

This certificate is issued as per your request vide letter no
 without any prejudice to the rights of BHEL to use this certificate for evaluation of your offers for future tenders

Yours faithfully,

For and on behalf of Bharat Heavy Electricals Limited

Head (Subcontracts)

INDEMNITY BOND

(To be executed on a Non Judicial Stamp Paper of the requisite value as per Stamp Duty prevalent in the respective State)

This Indemnity Bond executed by <name of company> having their Registered Office at <xxxxxxxxxx> in favour of M/s Bharat Heavy Electricals Limited, a Company incorporated under the Companies Act, 1956, having its Registered Office at BHEL House, Siri Fort, Asiad, New Delhi - 110049 through its Unit at Power Sector-Northern Region, Sector-16-A, NOIDA-201301, Uttar Pradesh State (India). (Hereinafter referred to as the Company)

And whereas the Company has entered into a Contract with M/s xxxxxxxxx, the executants of this Deed (hereinafter referred to as the Contractor) as its contractor in respect of the work of "xxxxxxxxxxxxxxxxxxxxxxxxxxxx".

AND WHEREAS under the provisions of GCC further stipulates that the Contractor shall indemnify the Company against all claims of whatever nature arising during the course of execution of Contract including defects liability period of <xx Months > i.e till <xx xx xxxx>

Now this deed witness that in case the Company is made liable by any Authority including Court to pay any claim or compensation etc. in respect of all labourers or other matters at any stage under or relating to the Contract with the Contractor , the Contractor hereby covenants and agrees with the Company that they shall indemnify and reimburse the Company to the extent of such payments and for any fee, including litigation charges, lawyers' fees, etc, penalty or damages claimed against the Company by reason of the Contractor falling to comply with Central/States Laws, Rules etc, or his failure to comply with Contract (including all expenses and charges incurred by the Company).

The Contractor further indemnifies the Company for the amount which the Company may be liable to pay by way of penalty for not making deductions from the Bills of the Contractor towards such amount and depositing the same in the Government Treasury.

INDEMNITY BOND

(To be executed on a Non Judicial Stamp Paper of the requisite value as per Stamp Duty prevalent in the respective State)

The Contractor further agree that the Company shall be entitled to with hold and adjust the Security Deposit and/or with hold and adjust payment of Bills of Contractor pertaining to this Contract against any payment which the Company has made or is required to make for which the Contractor is liable under the Contract and that such amount can be withheld, adjusted by the Company till satisfactory and final settlement of all pending matters and the Contractor hereby gives his consent for the same.

The Contractor further agrees that the terms of indemnity shall survive the termination or completion of this contract.

The contractor further agrees that the liability of the contractor shall be extended on actual basis notwithstanding the limitations of liability clause, in respect of :

1. breach of terms of contract by the contractor
2. breach of laws by the contractor
3. breach of Intellectual property rights by the contractor
4. breach of confidentiality by the contractor

Nothing contained in this deed, shall be construed as absolving or limiting the liability of the Contractor under said Contract between the Company and the Contractor. That this Indemnity Bond is irrevocable and the condition of the bond is that the Contractor shall duly and punctually comply with the terms and the conditions of this deed and contractual provisions to the satisfaction of the Company.

In witness where of M/s xxxxxxxxxxxxxx these presents on the day, month and year first, above written at xxxxxxxx by the hand of its signatory Mr. xxxxxxxxxxxx.

Signed for and on behalf of
M/s xxxxxxxxxxxxxxxxxxxx

Witness:

- 1
- 2

TIE-UP/CONSORTIUM AGREEMENT

(To be executed on Rs. 50/- Non – Judicial Stamp Paper)

THIS AGREEMENT is made and executed on this _____ day of _____, by and between (1) M/s _____, (The First Party, i.e, the Bidder) a company incorporated under the Company's Act 1956, having its registered office at _____(herein after called the "Bidder", which expression shall include its' successors, administrators, executors and permitted assigns) and (2) M/s _____, (The Second Party, i.e, the associates), a company incorporated under the Company's Act 1956, having its registered office at _____ (herein after called the " Associates", which expression shall include its' successors, administrators, executors and permitted assigns).

WHEAEAS the Owner, Bharat Heavy Electricals Ltd, a Government of India Undertaking, proposes to issue / issued an NIT (herein after referred to as the said NIT) inviting bids from the individual Bidders for undertaking the work of _____, at _____ (herein after referred to as the said works).

WHEREAS the said NIT enables submission of a bid by a Consortium subject to fulfillment of the stipulations specified in the said NIT.

AND WHEREAS M/s _____ (The First Party, i.e, the Bidder) will submit its proposal in response to the aforesaid invitation to bid by the Owner for _____ as detailed in the Bid doc. no. < TENDER REF----->

AND WHEREAS M/s _____ (The First Party, i.e the Bidder) itself is meeting all the qualifying requirements except the qualifying requirements of _____ (as detailed in the NIT) and in order to fully meet the qualifying requirements of NIT, this tie-up agreement is being entered into with M/s _____ (The Second Party, the Associates) , who fully meet the balance part of the said works (_____).

WHEREAS the First Party and the Second Party are contractors engaged in the business of carrying out various items of works. WHEREAS the two parties have agreed to constitute themselves into a consortium for the purpose of carrying out the said works, and that the consortium will be continued till the completion of the works in all respects.

WHEREAS the parties have agreed to certain terms and conditions in this regard:

TIE-UP/CONSORTIUM AGREEMENT

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS :

1. First and Second parties hereby constitute themselves into a Consortium for the purpose of bidding and undertaking the said works pursuant to the said NIT as hereinafter stated.
2. The First Party will be the leader (Lead Partner) and will be responsible for the entire works.

TIE-UP AGREEMENT

3. The First Party shall undertake the following part(s) of work detailed in the NIT namely _____

4. The Second Party shall undertake the following part(s) of work detailed in the said NIT namely _____

5. The parties hereby declare and confirm that each of them will fulfill the required minimum qualifying requirements as prescribed in the said NIT for the works agreed to be undertaken by them as stated here-in-above.
6. It is also agreed between the parties hereto that all of them shall be individually and severally responsible for the completion of the said works as per the schedule. Further, if the Employer/Owner sustains any loss or damage on account of any breach of the Contracts, we the, Consortium partners individually and severally undertake to promptly indemnify and pay such losses / damages caused to the Employer/Owner on its written demand without any demur, reservation, contest or protest in any manner whatsoever.
7. The parties hereby agree and undertake that they shall provide adequate finances, suitable Tools, Plants, Tractors, Trailers, other transportation equipment, other Tools & Plants, Measuring & Monitoring Equipments (MMEs), Men and Machinery etc. for the proper and effective execution of the works to be undertaken by them as specified here-in-above.
8. It is agreed interse between the parties hereto that all the consequences liabilities etc., arising out of any default in the due execution of the said works shall be borne by the party in default, that is by party in whose area of works default has occurred, provided however, so far as M/s Bharat Heavy Electricals Limited is concerned, all the parties shall be liable jointly and severally.

TIE-UP/CONSORTIUM AGREEMENT

IN WITNESS HEREOF the parties above named have signed this agreement on the day month and year first above written at _____(Place) .

WITNESS For
1. NAME (FIRST PARTY)
2. OFFICIAL ADDRESS

WITNESS For
1. NAME (SECOND PARTY)
2. OFFICIAL ADDRESS

[The successful bidder shall have to execute the " JOINT DEED OF UNDERTAKING " in the format to be made available by BHEL at the time of awarding].

REFUND OF SECURITY DEPOSIT

To,

The Construction Manager
BHEL Site Office

Dear Sir,

Sub : Refund of Security Deposit

Ref : Contract No:

Work:.....

I/We have submitted Final Bill in respect of the above Contract/Work vide our letter no:..... dated In line with Tender conditions (GCC clause no 1.11), kindly arrange to release/refund the Security Deposit along with Final Bill payments.

The details of Security Deposit are as below:

- 1. Cash Portion :
- 2. BG Portion :

Thanking You

Date: _____

Authorised representative of Contractor

To be filled up by BHEL

- 1. Security Deposit to be refunded:
 - a. Cash Portion:
 - b. BG Portion :
- 2. Less
 - a. Amount spent by BHEL on behalf of Contractor:
 - b. Payments made by BHEL on behalf of Contractor:
 - c. Other recoveries for Services etc
 - d. Any other recoveries
 - e. Total of 'a' to 'd':
- 3. Net Amount to be released (1-2) :
- 4. Certified that
 - a. The payment recommended for release is in order and there are no demands other than those included in the claim outstanding from the Contractor
 - b. Contract Guarantee period of Months commenced wef : _____
 - c. All objections raised so far have been settled
 - d. A note for refund of Security Deposit has been made in the Measurement Book

Signature of BHEL Engineer

Construction Manager

Date:-----

REFUND OF GUARANTEE MONEY

**BHARAT HEAVY ELECTRICALS LIMITED
POWER SECTOR, NORTHERN REGION**

Ref No:

Date:

1. Name and Address of Contractor :
2. Contract Agreement/LOI No :
3. Date of Contract Agreement/LOI :
4. Name of the Work undertaken :
5. Date of commencement of the Work :
6. Date of Completion of the Work :
7. Period of Maintenance :
(Guarantee Period)
8. Date on which the Final Bill was paid :
9. Last date of making good the defect :
during Maintenance Period
10. Expenditure incurred by BHEL during :
Maintenance Period, if any, recoverable
11. Date on which Guarantee Money refund:
falls due as per Contract
12. Amount of Guarantee Money to be refunded:
13. Less Amounts recoverable (with details)
 - a. Amount spent by BHEL on maintenance :
 - b. Payments made by BHEL on behalf of Contractor:
 - c. Court dues/penalties/compensation :
 - d. Other recoveries for Services, etc :
 - e. Total of 'a' to 'd' :
14. Net Amount recommended for release (12-13) :

Signature of BHEL Engineer

Date: _____

REFUND OF GUARANTEE MONEY

**BHARAT HEAVY ELECTRICALS LIMITED
POWER SECTOR, NORTHERN REGION**

CERTIFICATE TO BE FURNISHED BY THE CONTRACTOR

I/We have no claim or demand outstanding against BHEL _____, for the work done or for labour or material supplied or any other account arising out of or connected with the Contract Agreement/LOI (No _____ dated _____) and the payment of this bill shall be in full and final settlement of all my/our claims and demands including the 'Deposits' of the Contract Agreement/LOI referred to.

Signature of Contractor

Date:

CERTIFICATE TO BE FURNISHED BY SENIOR ENGINEER/CONSTRUCTION MANAGER

1. Certified that
 - a. The payment recommended for release is in order and there are no demands other than those included in the claim outstanding from the Contractor
 - b. Maintenance period (Contract Guarantee period) is over and the Contractor has carried out the works required to be carried out by him during the period of maintenance (Guarantee) to our satisfaction, and all expenses incurred by the Company on carrying out such works have been included for adjustment
 - c. All objections raised so far have been settled
 - d. A note for refund of Guarantee Amount has been made in the Measurement Book and Contract Agreement/Work Order

Signature of BHEL Engineer

Construction Manager

Date:-----

FOR USE IN ACCOUNTS DEPARTMENT

Passed for Rs _____ (Rupees _____ only)

Accountant

Accounts Officer

ACKNOWLEDGE BY THE CONTRACTOR

Received Rs _____ in full and final settlement of my/our claim

Signature of Contractor

Date:

POWER OF ATTORNEY for SUBMISSION OF TENDER/SIGNING CONTRACT AGREEMENT

(To be typed on non judicial Stamp Papers of appropriate value as applicable and Notarised)

KNOW ALL MEN BY THESE PRESENTS, that I/We do hereby make, nominate, constitute and appoint Mr , whose signature given below herewith to be true and lawful Attorney of M/s..... hereinafter called 'Company', for submitting Tender/entering into Contract and inter alia, sign, execute all papers and to do necessary lawful acts on behalf of Company with M/s Bharat Heavy Electricals Ltd, Power Sector, Northern Region, NOIDA-201301 (UP), in connection with
..... vide Tender Specification No : _____, dated _____.

And the Company do hereby agree to ratify and confirm all acts, deeds, things or proceedings as may be lawfully done by the said attorney and by or on behalf of the company and in the name of the company, by virtue of the powers conferred herein and the same shall be binding on the company and shall have full force and effect.

IN WITNESS WHEREOF the common seal of the company has been hereunto affixed in the manner hereinafter appearing on the document.

Dated at _____, this _____ day of _____

Director/CMD/Partner/Proprietor

Signature of Mr.....(Attorney)

Attested by: Director/CMD/Partner/Proprietor

Witness

Notary Public

ANALYSIS OF UNIT RATES QUOTED

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

Offer Reference No:.....

Date:.....

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : Analysis of Unit Rates Quoted

Ref : Tender Specification No:

Analysis of Unit Rates quoted by us in respect of above Tender is as detailed

SN	DESCRIPTION	% OF QUOTED RATE	REMARKS
01	SITE FACILITIES VIZ., ELECTRICITY, WATER OTHER INFRASTRUCTURE.		
02	SALARY AND WAGES + RETRENCHMENT BENEFITS		
03	CONSUMABLES		
04	T&P DEPRECIATION & MAINTENANCE		
05	ESTABLISHMENT & ADMINISTRATIVE EXPENSES		
06	OVERHEADS		
07	PROFIT		
	TOTAL	100%	

Yours faithfully,

(Signature, Date & Seal of Authorized Representative of the Bidder)

BHARAT HEAVY ELECTRICALS LIMITED

DIVISION.....

Running Account Bill

(Para 4.31.1 of Works Accounts Manual)

Name of the Contractor:

Name of the Work:

Sanctioned Estimate:

Code No:

Contract Agreement No :

Dated:

Departmental Bill no:

Division:

Date of written order to commence the work :

Date of commencement of the Work:

Due date of completion as per Agreement:

Date:

Sub-Division:

1. ACCOUNT OF WORK EXECUTED

On account payment for work not previously previously measured**			Item No of	Description of Work	Quantity as per agree- ment	Quantity executed up to date	Rate	Unit	Payment on the basis of actual measure- ment up to date	Quantity since last running account bill	Payment on the basis of actual measurement since last running account bill	Remarks
Total	since last	Total										
As per	running	up to										
Running	account	date										
Account	bill											
bill												
Rs.	Rs.	Rs.					Rs.	P.	Rs.	P.	Rs.	P.
1	2	3	4	5	6	7	8	9	10	11	12	13

* *1. Whenever payment is made on 'on account' basis without actual measurements the amount in whole rupees should be entered in columns 1 to 3 only and not in columns 7 to 12.

2. whenever there is an entry in column 12 on the basis of actual measurement, the whole of the amount previously paid without detailed measurement should be adjusted by a minus entry in column 2 equivalent to the amount shown in column 1, so that the total up to date in column 4 may become nil.

1	2	3	4	5	6	7	8	9	10	11	12	13
---	---	---	---	---	---	---	---	---	----	----	----	----

Total value of work done up to date (A) ...

Deduct value of work shown on the last Running Account Bill (B) ...

Net value of work done since last (C) ...

Rupees (in words)only.

II.MEMORANDUM OF PAYMENTS

		I		II	
		Rs.	P.	Rs.	P.
1.Total value of work actually measured as per Account No. I. Column 10	(A)	.....		.....
2.Total up to date 'on account' payment for work covered by approximate Or plan measurements as per Account No. I, Column 3	(B)	.....		.....
3.Total up to date secured advances on security of materials as per column 8 Of the enclosed Account (Form WAM 10)	(C)	.....		.....
4.Total up to date payments [(A) + (B) + (C)]	(D)	.....		.....
5.Total amount of payments already made as per Entry (D) of last Running Account Bill No..... Dated.....forwarde to the Accounts Office on	(E)				
6.Balance [(D)-(E)]		.....		
7.Payments now to be made:					
a) by cash/cheque			.....	
b) by deduction for value of materials supplied			.....	
c) by BHEL vide Annexure A attached			.....	
d) by deduction for hire of tools and plant vide Annexure B attached			.....	
e) by deduction for other charges vide Annexure C Attached			.....	
f)by deduction on account of security deposit			.....	
h) by deduction on account of Income Tax			.....	.....

Note: Amounts relating to items 4 to 6 above should be entered in column II and those relating to item 7 in column I. The amount shown against item 6 and the total of item 7 should agree with each other.

III.CERTIFICATE OF THE ENGINEER IN CHARGE

Form WAM 6 (contd...)

1. The measurements on which the entries in column 7 to 12 of Part I of this Bill (Account of work executed) are based were made by.....and are recorded at pages.....of
(Name and Designation)

Measurement Book No

2. Certified that the methods of measurement are correct and the work has been carried out in accordance with the terms and conditions, schedules, specifications and drawings etc, forming part of the contract agreement, subject to deviations included in the deviation statement (Annexure D).

3. Certified that in addition to and quite apart from the quantities of work actually executed as shown in column 10 of Part I, some work has actually been done in connection with several items and the value of the such work is, in no case, less than 'on account' payments as per column 3 of Part I, made or proposed to be made, for the convenience of the contractor in anticipation of, and subject to the results of, detailed measurement which will be made as soon as possible.

Signature of Contractor
Date:

Signature of Engineer in charge
Designation:
Date:

IV. CERTIFICATE OF THE SENIOR ENGINEER

1. Certified that measurements have been check measured to the prescribed extent byat site and also by the undersigned and the relevant entries have been intialled in the Measurement book. (vide pages.....)
(Name and Designation)

2. Certified that all the measurements recorded in the measurement book have been correctly billed for

3. Certified that all recoberable amounts in respect of materials tools and plant etc, and other charges have been correctly made vide

Annexures A to C attached.

Certified for payment * of Rs.....(Rupees.....only)

To be paid in cash/by cheque in the presence of

ALLOCATION

The expenditure is chargeable as under and to be included in the accounts for.....20.....

Ledger Head	Debit (Gross amount)	Credit (Deductions)
	Rs. P.	Rs. P.
Total		

* Here specify the net amount payable.

Signature of Senior Engineer
Date:

ANNEXURE A

Statement showing details of materials issued to the contractor Shri/M/s.....
 In respect of Contract Agreement NoDated.....

Sl. No.	Stores issue Voucher No. and date	Issue voucher No. and date allotted by stores to the SIV	Description of material issued to the contractor	Quantity issued	Quantity actually incorporated in the work	Whether recoverable from the contractor or supplied free	If recoverable from the contractor				R E M A R K S
							Rate at which recoverable	Amount recoverable	Amount recovered up to previous bill	Balance now recovered	
1	2	3	4	5	6	7	8	9	10	11	12
							Rs. P.	Rs. P.	Rs. P.	Rs. P.	

Total

Signature of contractor
Date:

Signature of Engineer in Charge
Date:

Signature of Senior Engineer
Date:

ANNEXURE B

Statement showing tools and plant issued to the contractor Shri/M/s.....
 In respect of Contract Agreement NoDated.....

Sl. No	Description of tools and plant issued	Period for which Issued	Rate at which recovery Is to be Made		Amount recover-able		Amount recovered upto previous bill		Balance now recovered		Remarks
			Rs.	P.	Rs.	P.	Rs.	P.	Rs.	P.	
1	2	3	4	5	6	7	8				

Total

Signature of contractor
Date:

Signature of Engineer in Charge
Date:

Signature of Senior Engineer
Date:

ANNEXURE D

Name of the Contractor:

Contract Agreement No:

Name of the Work:

Date:

Sl. No.	Description of item	Unit	Quantity as per Agreement	Quantity as executed	Quantity further anticipated	Total quantity anticipated on completion	Rate as per agreement	
							Rs.	P.
1	2	3	4	5	6	7	8	

Rate as executed	Amount as per agreement	Amount as executed	Amount further anticipated	Total amount anticipated on completion	Difference				Reason for the deviation with authority, if any
					Excess		savings		
Rs. P.	Rs. P.	Rs. P.	Rs. P.	Rs. P.	Rs. P.	Rs. P.	Rs. P.	16	
9	10	11	12	13	14	15			

Signature of Engineer in Charge

Date:

Signature of Senior Engineer

Date:

1	2	3	4	5	6	7	8	9	10	11	12	13
---	---	---	---	---	---	---	---	---	----	----	----	----

Total Value of Work Done up to date	(A)	
Deduct Value of work shown on the last running account bill	(B)	
Net value of work done since last running account bill	(C)	

Rupees (In Words).....Only

II MEMORANDUM OF PAYMENT

1	Total Value of work actually measured as per Account no I coloumn 10	(A)	Rs.	P
	Deduct amount of paym,ents already made as per last running account bill No Dated.....			
2	Forwarded to the Accounts Office on	(B)		
3	Payments now to be made { (A) - (B)}	(C)		
4	Deduct ammounts recoverable from the contractor on account of :	Rs		P
	a Material suplied by BHEL vide annexure A attached			
	b Hire of Tools & Plants vide Annexure B attached			
	c Other charges vide Annexure C attached			
	d Income Tax			
	Total deduction			
5	Balance			
6	Refund of 50% of security deposite on completion of work			
7	Net amount to be paid to the Contractor			

III. CERTIFICATE OF THE ENGINEER IN CHARGE

The measurement on which the entries in coulms 7 to 12 of Part I of this bill (Account of work executed) are based were made by

-
- 1 (Name and designation)
 - 2 A statement showing the quantities of stores issued to the contractor (whether free or on recovery basis) and their disposal is attached.

Date:

Signature of Engineer in charge
Designation

IV CERTIFICATE OF THE SENIOR ENGINEER

- 1 Certified that I have personally inspected the work and that the work has been physically completed on the due date in accordance with the terms and
 Certified that the measurements have been check measured to the prescribed extent by
 (Name & designation). And by the the undersigned at site and relevent entries have been initiated in the measurement book (vide
 2 pages.....)
- 3 Certified that the methods of measurement are correct
- 4 Certified that the measurements have been technically checked with reference to contract drawings, deviations etc
- 5 Certified that all the measurements recorded in the measurement book have been correctly billed for at the contract rates or approved rates.
- 6 Certified that all the recoverable amounts in respect of stores, tools and pallant, elwater, electricity charges etc, have been correctly made vide Annexures A
- 7 Certified that the issues of all stores as per statement atyatched (whether charged to the contractor or direct to the work) have been technically checked and

Certified for payment of * Rs (Rupees.....) (Only). To be paid in
 cash/by cheque in the presence of

ALLOCATION

The expenditure as under and to be included in the accounts for19

Ledger Head	Debit (Gross Amount)		Credit (Deduction)	
	Rs.	P	Rs.	P
.....
Total

* Here specify the net amount payable

Signature of Senior Engineer
 Date

V. ENTRIES TO BE MADE IN THE ACCOUNTS OFFICE

Account Bill no..... Dated

Entered in Journal book vide entry No.....Dated.....

Passed for.....Rs.....

Less Deductions.....Rs.....

(Rupees.....Only)

Payable to Shri/M/s..... by cheque/cash

Entered in contractors' Ledger no..... Page

Assistant Accountant Accounts officer

Date: Date: Date:

	ALLOCATION		Code No
Estimate No:			
Name of the Work			
Ledger Head	Debit		Credit
	(Gross Amount)		(Deduction)
	Rs P		Rs
.....
Total	.....		.....

VI. Received Rs.....(Rupees.....Only) in full and final settlement of all moneys due under this contract and I / we have no further claims of this contract.

Signature of Witness
Address

Revenue Stamp
Signature of Contractor
Date:

VII . ENTRIES TO BE MADE BY TREASURY SECTION

Cash book entry no and date :

Amount Paid Rs.....

Amount unpaid Rs.....

Total Rs.....

Signature of Cashier
Date:

ANNEXURE A
Part I

Statement showing details of material issued to the contractor Shri/M/s..... In respect of Contract Agreement/Work Order No..... Dated

SI No	Stores Issue voucher No and date	Issue voucher No and date allotted by stores to the SIV	description of material issued to the contractor	Quantity issued	Quantity incorporated in the work	Whether recoverable from the contractor or supplied free	Rate at which recoverable		If recoverable from contractor				Remarks		
							Rs	P	Amount Recoverable	upto previous bill	Amount recoverable	Balance Now recovered			
									Rs	P	Rs	P	Rs	P	
1	2	3	4	5	6	7	8	9	10		11				12

Total

Signature of Contractor
Date

Signature of Engineer in charge
Date

Signature of Senior Engineer
Date

ANNEXURE A
Part II

Statement showing details of material issued to the contractor Shri/M/s..... in respect of Contract Agreement/Work Order No..... Datedand not covered by the agreement

SI No	Stores Issue voucher No and date	Issue voucher No and date allotted by stores to the SIV	description of material issued to the contractor	Quantity issued	Quantity actually incorporated in the work	Issue Rate		Amount Recoverable		Amount recoverable upto previous bill		Balance Now recovered		Remarks
						Rs	P	Rs	P	Rs	P	Rs	P	
1	2	3	4	5	6	7	8	9	10	11				

Total

Add Departmental Charges

Add Sales Tax (wherever applicable)

Total

Signature of Contractor
Date

Signature of Engineer in charge
Date

Signature of Senior Engineer
Date

ANNEXURE B

Statement showing TOOLS & PLANTS issued to the contractor Shri/M/s..... in respect of Contract Agreement/Work Order No..... Datedand not covered by the agreement

SI No	Description of tools & plants issued	Period for which issued	Rate at which Recivry is to be made	Amount recoverabl e		Amount recoverable upto previous bill		Balance Now recovered		Remarks
				Rs	P	Rs	P	Rs	P	
1	2	3	4	5		6		7		8

Total

Signature of Contractor
Date

Signature of Engineer in charge
Date

Signature of Senior Engineer
Date

ANNEXURE C

showing detail of other recoveries to be made from the contractor Shri/M/s.....
 nent/Work Order No..... Dated.....

Sr.No	Particulars	Unit	Quantity	Rate Rs. P.	Amount recoverable Rs. P	Amount recovered upto previous bill Rs. P.	Amount now recovered Rs. P.	Remarks
1	2	3	4	5	6	7	8	9
	1 Water Charges							
	2 Electricity Charges							
	3 Seignorage Charges							
	4 Medical Charges							
	Cost of empty gunny bags and empty containers not 5 returned							
	6							
	7							
	8							
	9							
	10							
Total								

Signature of Contractor
Date

Signature of Engineer Incharge
Date

Signature of Sr. Engineer
Date

**ANNEXURE D -
DEVIATION STATEMENT :**

Name of the Contractor :

Contract Agreement/Work Order No. :

Name of the Work :

Date :

Sl. No.	Description of item	Unit	Quantity as per agreement	Quantity as executed	Rate as per agreement Rs. P.	Rate as executed Rs. P.	Amount as per agreement Rs. P.	Amount as executed Rs. P.	Difference		Reason for the deviation with authority, if any
									Excess	Savings	
1	2	3	4	5	6	7	8	9	10	11	12

Signature of Engineer in Charge

Date :

Signature of Senior Engineer

Date :

ANNEXURE E

Statement showing the consumption of materials issued to the contractor Shri/M/s.....
in respect of Contract Agreement/Work Order No..... Dated.....

Name of the Work :

ON RECOVERY BASIS

Sl. No.	Description of material	Unit	Quantity actually issued	Quantity actually incorporated in the work	Balance	Particulars of disposal of balance	Quantity to be issued as per approved data for work actually done	Variation in consumption (Difference between column 5 and 8)		Rate chargeable for excess/short consumption, if any	Amount recoverable for excess/short consumption, including materials not returned	
								More	Less		Rs. P.	Rs. P.
1	2	3	4	5	6	7	8	9	10	11	12	13
1.	Cement											
2.	Bricks											
3.	Wood.....											
4.	Asbestos Sheet											
5.	Iron Materials											
6.												
7.												
8.												
9.												
10.												

Signature of Contractor

Date :

Signature of Engineer in Charge

Date :

Signature of Senior Engineer

Date :

Note : 1. The quantities shown in columns 4 and 5 above should tally with those shown in columns 5 and 6 respectively of Annexure A (Part I and II).

2. Data statement of theoretical consumption should be attached in support of quantity specified in column 8.

ANNEXURE F

Statement showing detail of materials issued to the contractor Shri/M/s.....

of Contract Agreement/Work Order No..... Dated.....

Name of work;

FREE OF COST

Sr.No	Stores issue voucher No.	Description of material	Unit	Quantity issued	Quantity required as per data	Quantity consumed in the work	Balance(If any)	Nature of disposal for the balance	Rate chargeable for material not returned Rs.P.	Amount recoverable for material not returned Rs. P	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
Total											
Signature of Contractor Date				Signature of Engineer Incharge Date				Signature of Sr. Engineer Date			
Note:Data statement of theoretical consumption should be attached in support of the quantity specified in column 6											